YAMAHA

# OWNER'S MANUAL

FJR

## FJR1300AP

5P5-28199-E0

# DECLARATION of CONFORMITY

**We**

**Company: MORIC CO., LTD.**
**Address: 1450-6 Mori Mori-Machi Shuchi-gun Shizuoka 437-0292 Japan**

**Hereby declare that the product:**

**Kind of equipment: IMMOBILIZER**

**Type-designation: 5SL-00**

**is in compliance with following norm(s) or documents:**

**R&TTE Directive(1999/5/EC)**
**EN300 330-2 v1.1.1(2001-6), EN60950-1(2001)**
**Two or Three-Wheel Motor Vehicles Directive(97/24/EC: Chapter 8, EMC)**

**Place of issue: Shizuoka, Japan**

**Date of issue: 1 Aug. 2002**

**Revolution record**

| No. | Contents | Date |
|---|---|---|
| 1 | To change contact person and integrate type-designation. | 9 Jun. 2005 |
| 2 | Version up the norm of EN60950 to EN60950-1 | 27 Feb. 2006 |
| | | |

27/Feb/2006

**General manager of quality assurance div.** T. Izgaki

**representative name and signature**

**MORIC CO., LTD.**
**1450-6 Mori-machi Shuchi-gun Shizuoka 437-0292 JAPAN Telephone +81-538-85-0757 Facsimile +81-538-85-0456**
**URL:http://www.moric-jp.com**

# INTRODUCTION

EAU10100

Welcome to the Yamaha world of motorcycling!
As the owner of the FJR1300AP, you are benefiting from Yamaha's vast experience and newest technology regarding the design and manufacture of high-quality products, which have earned Yamaha a reputation for dependability.
Please take the time to read this manual thoroughly, so as to enjoy all advantages of your FJR1300AP. The owner's manual does not only instruct you in how to operate, inspect and maintain your motorcycle, but also in how to safeguard yourself and others from trouble and injury.
In addition, the many tips given in this manual will help keep your motorcycle in the best possible condition. If you have any further questions, do not hesitate to contact your Yamaha dealer.
The Yamaha team wishes you many safe and pleasant rides. So, remember to put safety first!

# IMPORTANT MANUAL INFORMATION

EAU40940

Particularly important information is distinguished in this manual by the following notations:

| | |
|---|---|
| ⚠ | **The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!** |
| **⚠ WARNING** | **Failure to follow WARNING instructions could result in severe injury or death to the motorcycle operator, a bystander, or a person inspecting or repairing the motorcycle.** |
| **CAUTION:** | **A CAUTION indicates special precautions that must be taken to avoid damage to the motorcycle.** |
| **NOTE:** | A NOTE provides key information to make procedures easier or clearer. |

**NOTE:**

- This manual should be considered a permanent part of this motorcycle and should remain with it even if the motorcycle is subsequently sold.
- Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your motorcycle and this manual. If you have any questions concerning this manual, please consult your Yamaha dealer.

EWA10030

**⚠ WARNING**

**PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE OPERATING THIS MOTORCYCLE.**

*Product and specifications are subject to change without notice.
*The illustrations in this manual show the basic FJR1300A model, and may therefore slightly differ from the FJR1300AP model.

EAU10200

**FJR1300AP**
**OWNER'S MANUAL**
**©2006 by Yamaha Motor Co., Ltd.**
**1st edition, March 2006**
**All rights reserved.**
**Any reprinting or unauthorized use without the written permission of Yamaha Motor Co., Ltd. is expressly prohibited.**
**Printed in Japan.**

# TABLE OF CONTENTS


**SAFETY INFORMATION** .....1-1

**DESCRIPTION** .....2-1
- Left view .....2-1
- Right view .....2-2
- Controls and instruments.....2-3

**INSTRUMENT AND CONTROL FUNCTIONS**.....3-1
- Immobilizer system .....3-1
- Main switch/steering lock .....3-2
- Indicator and warning lights .....3-3
- Speedometer .....3-5
- Tachometer .....3-5
- Multi-function display .....3-6
- Anti-theft alarm (optional) .....3-13
- Handlebar switches .....3-13
- Clutch lever .....3-15
- Shift pedal .....3-15
- Brake lever .....3-16
- Brake pedal .....3-16
- ABS .....3-16
- Fuel tank cap .....3-17
- Fuel .....3-18
- Fuel tank breather/overflow hose .....3-19
- Catalytic converter .....3-19
- Seat .....3-19
- Adjusting the seat height .....3-20
- Storage compartment .....3-22
- Accessory box .....3-23
- Adjusting the headlight beams .....3-23
- Handlebar position .....3-24
- Opening and closing the cowlings .....3-24
- Rear view mirrors .....3-25
- Adjusting the front fork .....3-25
- Adjusting the shock absorber assembly .....3-27
- Grip warmer adjusting knob .....3-28
- Sidestand .....3-29
- Ignition circuit cut-off system .....3-30
- Auxiliary DC jack .....3-32

**PRE-OPERATION CHECKS** .....4-1
- Pre-operation check list .....4-2

**OPERATION AND IMPORTANT RIDING POINTS**.....5-1
- Starting the engine .....5-1
- Shifting .....5-2
- Tips for reducing fuel consumption .....5-3
- Engine break-in .....5-3
- Parking .....5-4

**PERIODIC MAINTENANCE AND MINOR REPAIR**.....6-1
- Owner's tool kit .....6-1
- Periodic maintenance and lubrication chart .....6-2
- Removing and installing panels .....6-5
- Checking the spark plugs .....6-7
- Engine oil and oil filter cartridge .....6-8
- Final gear oil .....6-10
- Coolant .....6-12
- Cleaning the air filter element .....6-13
- Checking the engine idling speed .....6-15
- Checking the throttle cable free play .....6-15
- Valve clearance .....6-15
- Tires .....6-16
- Cast wheels .....6-18
- Clutch lever .....6-19
- Adjusting the rear brake light switch .....6-19
- Checking the front and rear brake pads .....6-19
- Checking the brake and clutch fluid levels .....6-20
- Changing the brake and clutch fluids .....6-21
- Checking and lubricating the cables .....6-22
- Checking and lubricating the throttle grip and cable .....6-22
- Checking and lubricating the brake and shift pedals .....6-22
- Checking and lubricating the brake and clutch levers .....6-23
- Checking and lubricating the centerstand and sidestand .....6-24

Lubricating the swingarm pivots ...6-24
Lubricating the rear suspension ...6-24
Checking the front fork .....6-25
Checking the steering .....6-25
Checking the wheel bearings .....6-26
Battery .....6-26
Replacing the fuses .....6-28
Headlight bulb .....6-29
Front turn signal light .....6-29
Replacing a rear turn signal light bulb or a tail/brake light bulb .....6-30
Replacing the license plate light bulb .....6-30
Auxiliary light bulb .....6-31
Troubleshooting .....6-31
Troubleshooting charts .....6-32

**MOTORCYCLE CARE AND STORAGE** .....7-1
Care .....7-1
Storage .....7-3

**SPECIFICATIONS** .....8-1

**CONSUMER INFORMATION**.....9-1
Identification numbers .....9-1

# ⚠ SAFETY INFORMATION

EAU40950

1

MOTORCYCLES ARE SINGLE TRACK VEHICLES. THEIR SAFE USE AND OPERATION ARE DEPENDENT UPON THE USE OF PROPER RIDING TECHNIQUES AS WELL AS THE EXPERTISE OF THE OPERATOR. EVERY OPERATOR SHOULD KNOW THE FOLLOWING REQUIREMENTS BEFORE RIDING THIS MOTORCYCLE.

HE OR SHE SHOULD:

- OBTAIN THOROUGH INSTRUCTIONS FROM A COMPETENT SOURCE ON ALL ASPECTS OF MOTORCYCLE OPERATION.
- OBSERVE THE WARNINGS AND MAINTENANCE REQUIREMENTS IN THE OWNER'S MANUAL.
- OBTAIN QUALIFIED TRAINING IN SAFE AND PROPER RIDING TECHNIQUES.
- OBTAIN PROFESSIONAL TECHNICAL SERVICE AS INDICATED BY THE OWNER'S MANUAL AND/OR WHEN MADE NECESSARY BY MECHANICAL CONDITIONS.

**Safe riding**

- Always make pre-operation checks. Careful checks may help prevent an accident.
- This motorcycle is designed to carry the operator only. No passengers.
- The failure of motorists to detect and recognize motorcycles in traffic is the predominating cause of automobile/motorcycle accidents. Many accidents have been caused by an automobile driver who did not see the motorcycle. Making yourself conspicuous appears to be very effective in reducing the chance of this type of accident.

  **Therefore:**
  - Wear a brightly colored jacket.
  - Use extra caution when you are approaching and passing through intersections, since intersections are the most likely places for motorcycle accidents to occur.
  - Ride where other motorists can see you. Avoid riding in another motorist's blind spot.
- Many accidents involve inexperienced operators. In fact, many operators who have been involved in accidents do not even have a current motorcycle license.
  - Make sure that you are qualified and that you only lend your motorcycle to other qualified operators.
  - Know your skills and limits. Staying within your limits may help you to avoid an accident.
  - We recommend that you practice riding your motorcycle where there is no traffic until you have become thoroughly familiar with the motorcycle and all of its controls.
- Many accidents have been caused by error of the motorcycle operator. A typical error made by the operator is veering wide on a turn

due to EXCESSIVE SPEED or undercornering (insufficient lean angle for the speed).
  - Always obey the speed limit and never travel faster than warranted by road and traffic conditions.
  - Always signal before turning or changing lanes. Make sure that other motorists can see you.
- The posture of the operator is important for proper control. The operator should keep both hands on the handlebar and both feet on the operator footrests during operation to maintain control of the motorcycle.
- Never ride under the influence of alcohol or other drugs.
- This motorcycle is designed for on-road use only. It is not suitable for off-road use.

**Protective apparel**

The majority of fatalities from motorcycle accidents are the result of head injuries. The use of a safety helmet is the single most critical factor in the prevention or reduction of head injuries.

- Always wear an approved helmet.
- Wear a face shield or goggles. Wind in your unprotected eyes could contribute to an impairment of vision that could delay seeing a hazard.
- The use of a jacket, heavy boots, trousers, gloves, etc., is effective in preventing or reducing abrasions or lacerations.
- Never wear loose-fitting clothes, otherwise they could catch on the control levers, footrests, or wheels and cause injury or an accident.
- Never touch the engine or exhaust system during or after operation. They become very hot and can cause burns. Always wear protective clothing that covers your legs, ankles, and feet.

**Modifications**

Modifications made to this motorcycle not approved by Yamaha, or the removal of original equipment, may render the motorcycle unsafe for use and may cause severe personal injury. Modifications may also make your motorcycle illegal to use.

**Loading and accessories**

Adding accessories or cargo to your motorcycle can adversely affect stability and handling if the weight distribution of the motorcycle is changed. To avoid the possibility of an accident, use extreme caution when adding cargo or accessories to your motorcycle. Use extra care when riding a motorcycle that has added cargo or accessories. Here are some general guidelines to follow if loading cargo or adding accessories to your motorcycle:

Loading

The total weight of the operator, accessories and cargo must not exceed the maximum load limit.

**Maximum load:**
215 kg (474 lb)

When loading within this weight limit, keep the following in mind:

- Cargo and accessory weight should be kept as low and close to the motorcycle as possible. Make sure to distribute the weight as

evenly as possible on both sides of the motorcycle to minimize imbalance or instability.
- Shifting weights can create a sudden imbalance. Make sure that accessories and cargo are securely attached to the motorcycle before riding. Check accessory mounts and cargo restraints frequently.
- Never attach any large or heavy items to the handlebar, front fork, or front fender. These items, including such cargo as sleeping bags, duffel bags, or tents, can create unstable handling or a slow steering response.

Accessories

Genuine Yamaha accessories have been specifically designed for use on this motorcycle. Since Yamaha cannot test all other accessories that may be available, you must personally be responsible for the proper selection, installation and use of non-Yamaha accessories. Use extreme caution when selecting and installing any accessories.

Keep the following guidelines in mind, as well as those provided under "Loading" when mounting accessories.
- Never install accessories or carry cargo that would impair the performance of your motorcycle. Carefully inspect the accessory before using it to make sure that it does not in any way reduce ground clearance or cornering clearance, limit suspension travel, steering travel or control operation, or obscure lights or reflectors.
  - Accessories fitted to the handlebar or the front fork area can create instability due to improper weight distribution or aerodynamic changes. If accessories are added to the handlebar or front fork area, they must be as lightweight as possible and should be kept to a minimum.
  - Bulky or large accessories may seriously affect the stability of the motorcycle due to aerodynamic effects. Wind may attempt to lift the motorcycle, or the motorcycle may become unstable in cross winds. These accessories may also cause instability when passing or being passed by large vehicles.
  - Certain accessories can displace the operator from his or her normal riding position. This improper position limits the freedom of movement of the operator and may limit control ability, therefore, such accessories are not recommended.
- Use caution when adding electrical accessories. If electrical accessories exceed the capacity of the motorcycle's electrical system, an electric failure could result, which could cause a dangerous loss of lights or engine power.

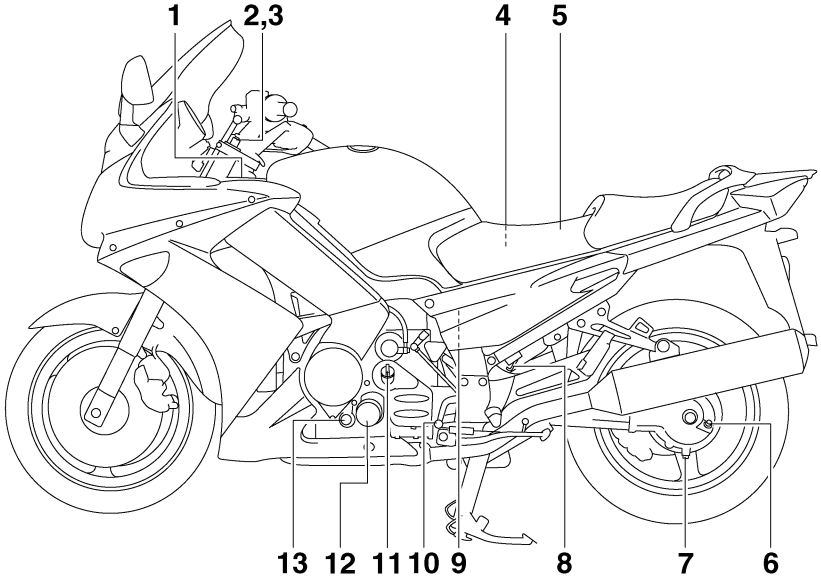
**Gasoline and exhaust gas**
- GASOLINE IS HIGHLY FLAMMABLE:
  - Always turn the engine off when refueling.
  - Take care not to spill any gasoline on the engine or exhaust system when refueling.
  - Never refuel while smoking or in the vicinity of an open flame.

- Never start the engine or let it run for any length of time in a closed area. The exhaust fumes are poisonous and may cause loss of consciousness and death within a short time. Always operate your motorcycle in an area that has adequate ventilation.
- Always turn the engine off before leaving the motorcycle unattended and remove the key from the main switch. When parking the motorcycle, note the following:
  - The engine and exhaust system may be hot, therefore, park the motorcycle in a place where pedestrians or children are not likely to touch these hot areas.
  - Do not park the motorcycle on a slope or soft ground, otherwise it may fall over.
  - Do not park the motorcycle near a flammable source, (e.g., a kerosene heater, or near an open flame), otherwise it could catch fire.
- When transporting the motorcycle in another vehicle, make sure that it is kept upright. If the motorcycle should lean over, gasoline may leak out of the fuel tank.
- If you should swallow any gasoline, inhale a lot of gasoline vapor, or allow gasoline to get into your eyes, see your doctor immediately. If any gasoline spills on your skin or clothing, immediately wash the affected area with soap and water and change your clothes.

EAU10410

## Left view

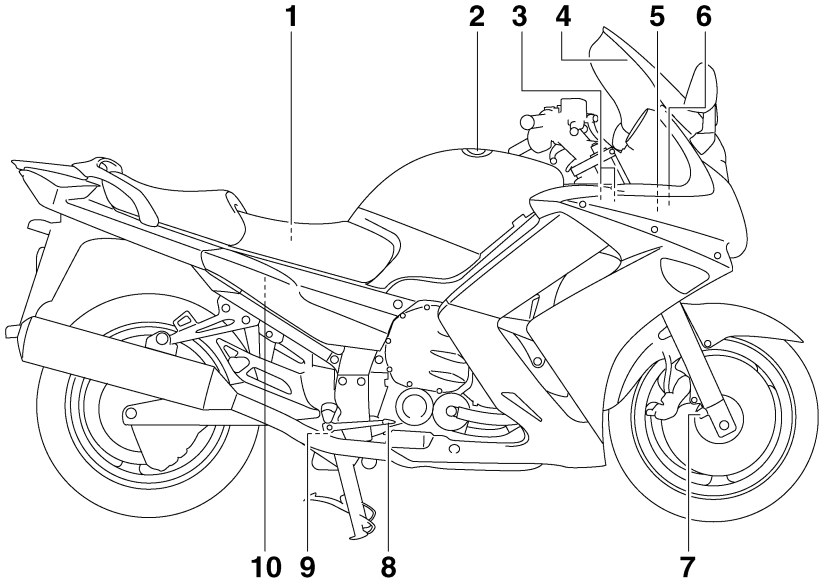





1. Accessory box (page 3-23)
2. Front fork spring preload adjusting bolt (page 3-25)
3. Front fork rebound damping force adjusting knob (page 3-25)
4. Owner's tool kit (page 6-1)
5. Seat (page 3-19)
6. Final gear oil filler bolt (page 6-10)
7. Final gear oil drain bolt (page 6-10)
8. Shock absorber assembly spring preload adjusting lever (page 3-27)
9. Air filter element (page 6-13)
10. Shift pedal (page 3-15)
11. Engine oil filler cap (page 6-8)
12. Engine oil filter cartridge (page 6-8)
13. Engine oil level check window (page 6-8)

EAU10420

## Right view

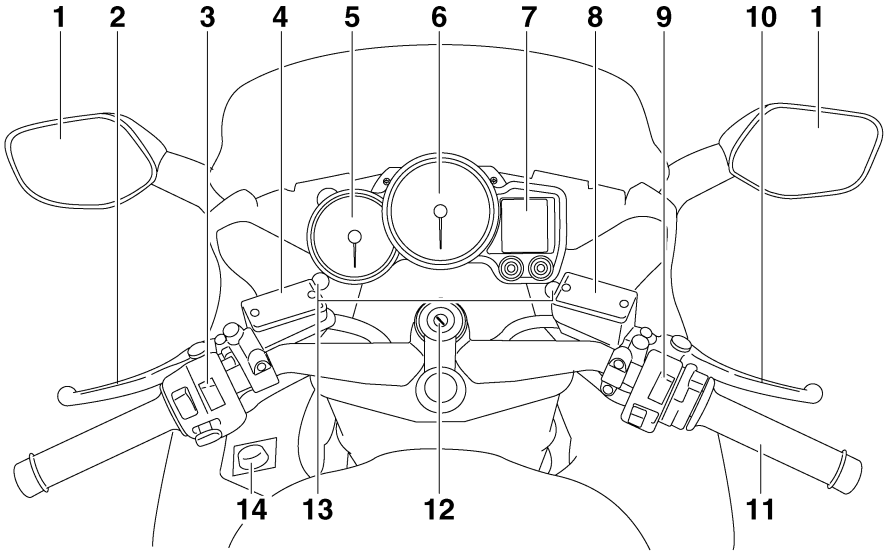



1. Storage compartment (page 3-22)
2. Fuel tank cap (page 3-17)
3. Fuse box (page 6-28)
4. Windshield (page 3-13)
5. Battery (page 6-26)
6. Main fuse (page 6-28)
7. Front fork compression damping force adjusting screw (page 3-25)
8. Brake pedal (page 3-16)
9. Shock absorber assembly rebound damping force adjusting knob (page 3-27)
10. Rear brake fluid reservoir (page 6-20)

EAU10430

## Controls and instruments

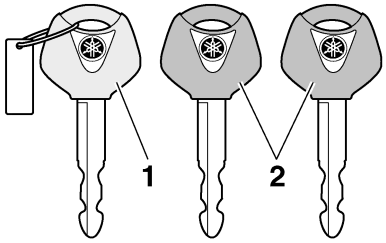





1. Rear view mirror (page 3-25)
2. Clutch lever (page 3-15)
3. Left handlebar switches (page 3-13)
4. Clutch fluid reservoir (page 6-20)
5. Tachometer (page 3-5)
6. Speedometer (page 3-5)
7. Multi-function display (page 3-6)
8. Front brake fluid reservoir (page 6-20)
9. Right handlebar switches (page 3-13)
10. Brake lever (page 3-16)
11. Throttle grip (page 6-15)
12. Main switch/steering lock (page 3-2)
13. Headlight beam adjusting knob (page 3-23)
14. Grip warmer adjusting knob (page 3-28)

## Immobilizer system

EAU10972




1. Code re-registering key (red bow)
2. Standard keys (black bow)

This vehicle is equipped with an immobilizer system to help prevent theft by re-registering codes in the standard keys. This system consists of the following.

- a code re-registering key (with a red bow)
- two standard keys (with a black bow) that can be re-registered with new codes
- a transponder (which is installed in the code re-registering key)
- an immobilizer unit
- an ECU
- an immobilizer system indicator light (See page 3-3.)

The key with the red bow is used to register codes in each standard key. Since re-registering is a difficult process, take the vehicle along with all three keys to a Yamaha dealer to have them re-registered. Do not use the key with the red bow for driving. It should only be used for re-registering the standard keys. Always use a standard key for driving.

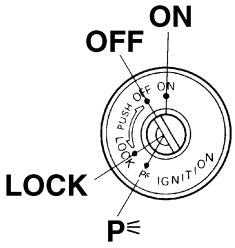
ECA11820

**CAUTION:**

- **DO NOT LOSE THE CODE RE-REGISTERING KEY! CONTACT YOUR DEALER IMMEDIATELY IF IT IS LOST! If the code re-registering key is lost, registering new codes in the standard keys is impossible. The standard keys can still be used to start the vehicle, however if code re-registering is required (i.e., if a new standard key is made or all keys are lost) the entire immobilizer system must be replaced. Therefore, it is highly recommended to use either standard key and keep the code re-registering key in a safe place.**
- **Do not submerse any key in water.**
- **Do not expose any key to excessively high temperatures.**
- **Do not place any key close to magnets (this includes, but not limited to, products such as speakers, etc.).**
- **Do not place heavy items on any key.**
- **Do not grind any key or alter its shape.**
- **Do not disassemble the plastic part of any key.**
- **Do not put two keys of any immobilizer system on the same key ring.**
- **Keep the standard keys as well as keys of other immobilizer systems away from this vehicle's code re-registering key.**
- **Keep other immobilizer system keys away from the main switch as they may cause signal interference.**

EAU10471

## Main switch/steering lock




The main switch/steering lock controls the ignition and lighting systems, and is used to lock the steering.

**NOTE:**

Be sure to use the standard key (black bow) for regular use of the vehicle. To minimize the risk of losing the code re-registering key (red bow), keep it in a safe place and only use it for code re-registering.

EAU26811

**ON**

All electrical circuits are supplied with power; the meter lighting, taillights, license plate light and auxiliary lights come on, and the engine can be started. The key cannot be removed.

**NOTE:**

The headlights come on automatically when the engine is started and stay on until the key is turned to “OFF”.

EAU10660

**OFF**

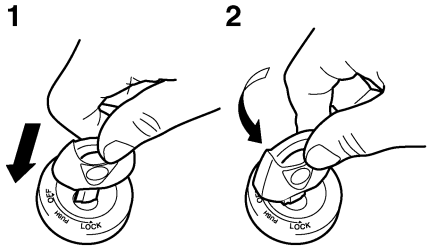
All electrical systems are off. The key can be removed.

EAU10690

**LOCK**

The steering is locked, and all electrical systems are off. The key can be removed.

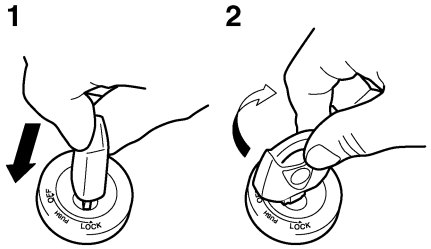
To lock the steering




1. Push.
2. Turn.

1. Turn the handlebars all the way to the left or right.
2. Push the key in from the “OFF” position, and then turn it to “LOCK” while still pushing it.
3. Remove the key.

To unlock the steering




1. Push.
2. Turn.

Push the key into the main switch, and then turn it to "OFF" while still pushing it.

EWA10060

**⚠ WARNING**

**Never turn the key to "OFF" or "LOCK" while the vehicle is moving, otherwise the electrical systems will be switched off, which may result in loss of control or an accident. Make sure that the vehicle is stopped before turning the key to "OFF" or "LOCK".**

EAU39460

**P⚟ (Parking)**

The steering is locked, and the taillights, license plate light and auxiliary lights are on. The hazard lights and turn signal lights can be turned on, but all other electrical systems are off. The key can be removed.

The steering must be locked before the key can be turned to "P⚟".

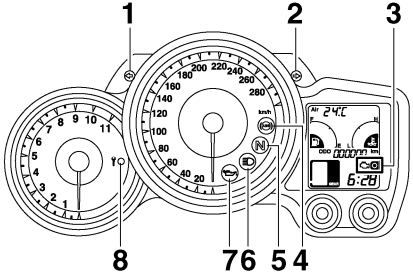
ECA11020

**CAUTION:**

**Do not use the parking position for an extended length of time, otherwise the battery may discharge.**

EAU11003

## Indicator and warning lights




1. Left turn signal indicator light "⇦"
2. Right turn signal indicator light "⇨"
3. Engine trouble warning light "🔧"
4. Anti-lock Brake System (ABS) warning light "(ABS)"
5. Neutral indicator light "N"
6. High beam indicator light "≡D"
7. Oil level warning light "🛢"
8. Immobilizer system indicator light

EAU11030

**Turn signal indicator lights "⇦" and "⇨"**

The corresponding indicator light flashes when the turn signal switch is pushed to the left or right.

EAU11060

**Neutral indicator light "N"**

This indicator light comes on when the transmission is in the neutral position.

EAU11080

**High beam indicator light "≣D"**

This indicator light comes on when the high beam of the headlight is switched on.

EAU11120

**Oil level warning light "🛢"**

This warning light comes on when the engine oil level is low.

The electrical circuit of the warning light can be checked by turning the key to "ON".

If the warning light does not come on for a few seconds, then go off, have a Yamaha dealer check the electrical circuit.

**NOTE:**

Even if the oil level is sufficient, the warning light may flicker when riding on a slope or during sudden acceleration or deceleration, but this is not a malfunction.

EAU11530

**Engine trouble warning light "🔧"**

This warning light comes on or flashes when an electrical circuit monitoring the engine is defective. When this occurs, have a Yamaha dealer check the self-diagnosis system. (See page 3-6 for an explanation of the self-diagnosis device.)

The electrical circuit of the warning light can be checked by turning the key to "ON". If the warning light does not come on for a few seconds, then go off, have a Yamaha dealer check the electrical circuit.

EAU40870

**ABS warning light "(ABS)"**

If this warning light comes on or flashes while riding, the ABS may be defective. If this occurs, have a Yamaha dealer check the system as soon as possible. (See page 3-16.)

EWA10081

**⚠ WARNING**

**If the ABS warning light comes on or flashes while riding, the brake system reverts to conventional braking. Therefore, be careful not to cause the wheels to lock during emergency braking. If the warning light comes on or flashes while riding, have a Yamaha dealer check the brake system as soon as possible.**

The electrical circuit of the warning light can be checked by turning the key to "ON".

If the warning light does not come on or remains on, have a Yamaha dealer check the electrical circuit.

**NOTE:**

This warning light will come on when the key is turned to "ON" and the start switch "(S)" is pushed, but this does not indicate a malfunction.

EAU38620

**Immobilizer system indicator light**

The electrical circuit of the indicator light can be checked by turning the key to "ON".

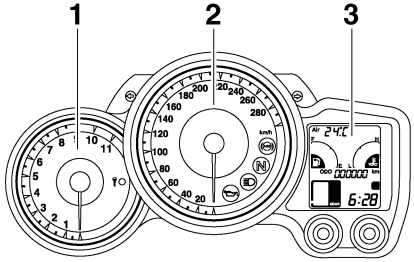
If the indicator light does not come on for a few seconds, then go off, have a Yamaha dealer check the electrical circuit.

When the key is turned to "OFF" and 30 seconds have passed, the indicator light will start flashing indicating the im-

mobilizer system is enabled. After 24 hours have passed, the indicator light will stop flashing, however the immobilizer system is still enabled.
This model is also equipped with a self-diagnosis device for the immobilizer system. (See page 3-6 for an explanation of the self-diagnosis device.)

EAU11601

## Speedometer

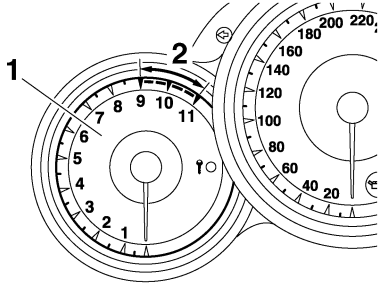



1. Tachometer
2. Speedometer
3. Multi-function display

The speedometer shows the riding speed.
When the key is turned to “ON”, the speedometer needle will sweep once across the speed range and then return to zero in order to test the electrical circuit.

EAU11872

## Tachometer




1. Tachometer
2. Tachometer red zone

The electric tachometer allows the rider to monitor the engine speed and keep it within the ideal power range.
When the key is turned to “ON”, the tachometer needle will sweep once across the r/min range and then return to zero r/min in order to test the electrical circuit.

ECA10031

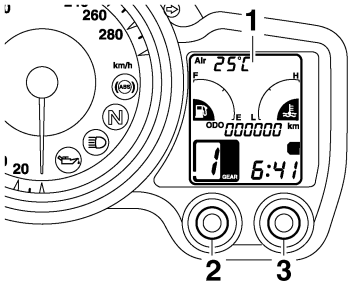
**CAUTION:**

**Do not operate the engine in the tachometer red zone.**
**Red zone: 9000 r/min and above**

3

## Multi-function display

EAU26867




1. Multi-function display
2. “SELECT” button
3. “RESET” button

EWA14430

**⚠ WARNING**

**Be sure to stop the vehicle before making any setting changes to the multi-function display.**

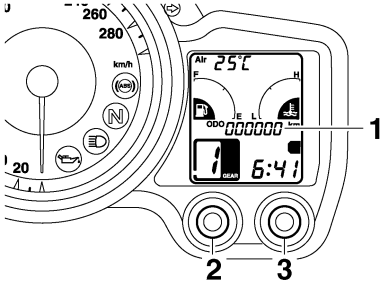
The multi-function display is equipped with the following:

- an odometer (which shows the total distance traveled)
- two tripmeters (which show the distance traveled since they were last set to zero)
- a fuel reserve tripmeter (which shows the distance traveled on the fuel reserve)
- a clock
- a fuel meter
- a coolant temperature meter
- a transmission gear display
- an ambient temperature display
- a fuel consumption display (instantaneous and average consumption functions)
- a self-diagnosis device

**NOTE:**

Be sure to turn the key to “ON” before using the “SELECT” and “RESET” buttons.

### Odometer and tripmeter modes




1. Odometer/tripmeter/fuel reserve tripmeter
2. “SELECT” button
3. “RESET” button

Pushing the “SELECT” button switches the display between the odometer mode “ODO” and the tripmeter modes “TRIP 1” and “TRIP 2” in the following order:
ODO → TRIP 1 → TRIP 2 → ODO

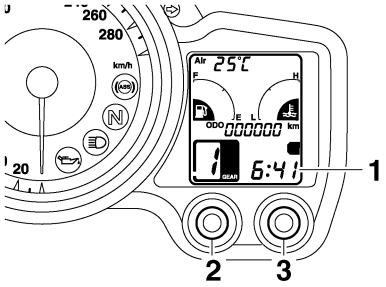
**NOTE:**

When selecting “TRIP 1” or “TRIP 2”, the display flashes for five seconds.

When approximately 5.5 L (1.45 US gal) (1.21 Imp.gal) of fuel remains in the fuel tank, the display will automatically change to the fuel reserve tripmeter mode “F-TRIP” and start counting the

distance traveled from that point. In that case, pushing the “SELECT” button switches the display between the various tripmeter and odometer modes in the following order:
F-TRIP → TRIP 1 → TRIP 2 → ODO → F-TRIP
To reset a tripmeter, select it by pushing the “SELECT” button, and then push the “SELECT” button for at least one second while the display is flashing. If you do not reset the fuel reserve tripmeter manually, it will reset itself automatically and the display will return to the prior mode after refueling and traveling 5 km (3 mi).

**Clock**

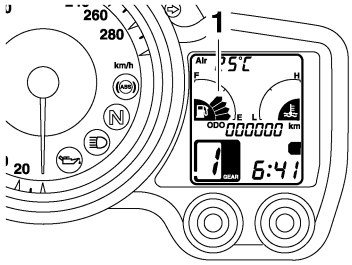



1. Clock
2. “SELECT” button
3. “RESET” button

To set the clock:

1. Push the “SELECT” button and “RESET” button together for at least two seconds.
2. When the hour digits start flashing, push the “RESET” button to set the hours.
3. Push the “SELECT” button, and the minute digits will start flashing.
4. Push the “RESET” button to set the minutes.
5. Push the “SELECT” button and then release it to start the clock.

**Fuel meter**




1. Fuel meter

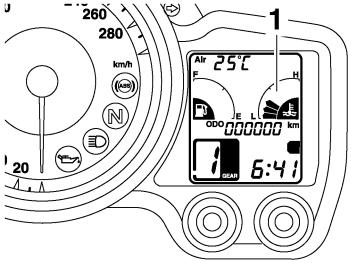
The fuel meter indicates the amount of fuel in the fuel tank. The display segments of the fuel meter disappear towards “E” (Empty) as the fuel level decreases. When the last segment starts flashing, refuel as soon as possible. When the key is turned to “ON”, all of the display segments of the fuel meter will appear one after the other and then disappear in order to test the electrical circuit.

**NOTE:**

This fuel meter is equipped with a self-diagnosis system. If the electrical circuit is defective, all the display segments

will start flashing. If this occurs, have a Yamaha dealer check the electrical circuit.

### Coolant temperature meter




1. Coolant temperature meter

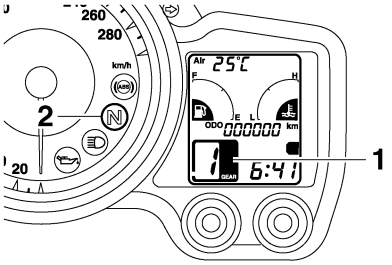
With the key in the “ON” position, the coolant temperature meter indicates the temperature of the coolant. When the key is turned to “ON”, all of the display segments of the coolant temperature meter will appear one after the other and then disappear in order to test the electrical circuit. The coolant temperature varies with changes in the weather and engine load. If the top segment flashes, stop the vehicle and let the engine cool. (See page 6-32.)

ECA10020

**CAUTION:**

**Do not operate the engine if it is overheated.**

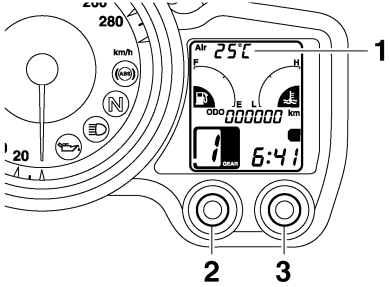
### Transmission gear display




1. Transmission gear display
2. Neutral indicator light “ **N** ”

This display shows the selected gear. The neutral position, however, is not displayed, it is indicated by the neutral indicator light.

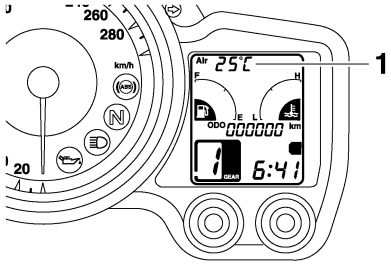
### Ambient temperature, instantaneous fuel consumption and average fuel consumption modes (except for the UK)




1. Ambient temperature/instantaneous fuel consumption/average fuel consumption
2. “SELECT” button
3. “RESET” button

Push the “RESET” button to switch the display between the ambient temperature mode and the fuel consumption modes in the following order:
Air → km/L or L/100 km → AV _ _._ km/L or AV _ _._ L/100 km → Air

Ambient temperature mode



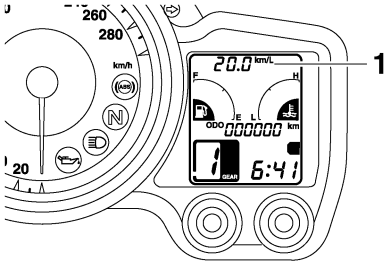

1. Ambient temperature

This display shows the ambient temperature from –9 °C to 50 °C in 1 °C increments. The temperature displayed may vary from the ambient temperature.

**NOTE:**

- If the ambient temperature falls below –9 °C, a lower temperature than –9 °C will not be displayed.
- If the ambient temperature climbs above 50 °C, a higher temperature than 50 °C will not be displayed.
- The accuracy of the temperature reading may be affected when riding slowly (approximately under 20 km/h) or when stopped at traffic signals, railroad crossings, etc.

Instantaneous fuel consumption mode




1. Instantaneous fuel consumption

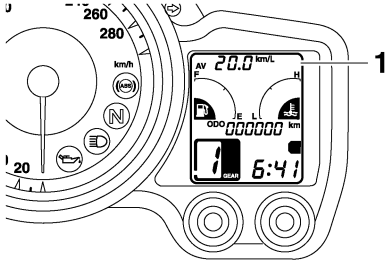
The instantaneous fuel consumption display can be set to either “km/L” or “L/100 km”.

- When the display is set to “km/L”, the distance that can be traveled on 1.0 L of fuel under the current riding conditions is shown.
- When the display is set to “L/100 km”, the amount of fuel necessary to travel 100 km under the current riding conditions is shown.

**NOTE:**

- To switch between the two instantaneous fuel consumption displays, push the “RESET” button for 1 second when either display is shown.
- If traveling at speeds under 10 km/h, “_ _._” will be displayed.

Average fuel consumption mode




1. Average fuel consumption

This display shows the average fuel consumption since it was last reset.

The average fuel consumption display can be set to either "AV _ _._ km/L" or "AV _ _._ L/100 km".
When the average fuel consumption mode is selected, the display flashes for five seconds, and then, depending on the unit set, "AV _ _._ km/L" (average distance that can be traveled using 1.0 L of fuel) or "AV _ _._ L/100 km" (average amount of fuel necessary to travel 100 km) is displayed.
To reset the average fuel consumption display, push the "RESET" button to select the mode again, and then push the "RESET" button for 1 second while the display is flashing.

**NOTE:**

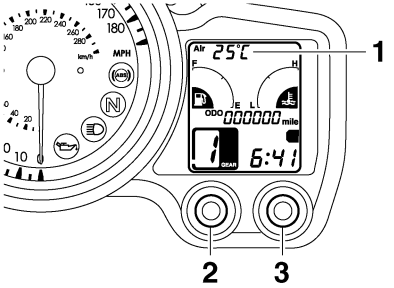
- To switch between the two average fuel consumption displays, push the "RESET" button for 1 second when either display is shown.
- After resetting an average fuel consumption display, "_ _._" will be shown for that display until the vehicle has traveled 1 km.

ECA15472

**CAUTION:**

**If there is a malfunction, "– –.–" will be displayed. Have a Yamaha dealer check the vehicle.**

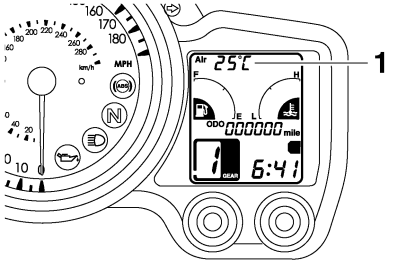
**Ambient temperature, instantaneous fuel consumption and average fuel consumption modes (for the UK only)**




1. Ambient temperature/instantaneous fuel consumption/average fuel consumption
2. "SELECT" button
3. "RESET" button

Push the "RESET" button to switch the display between the ambient temperature mode and the fuel consumption modes in the following order:
Air → MPG → AV _ _._ MPG → Air

Ambient temperature mode




1. Ambient temperature

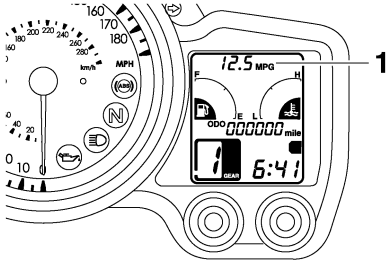
This display shows the ambient temperature from –9 °C to 50 °C in 1 °C increments. The temperature displayed may vary from the ambient temperature.

**NOTE:**

- If the ambient temperature falls below –9 °C, a lower temperature than –9 °C will not be displayed.
- If the ambient temperature climbs above 50 °C, a higher temperature than 50 °C will not be displayed.
- The accuracy of the temperature reading may be affected when riding slowly [approximately under

20 km/h (12.5 mi/h)] or when stopped at traffic signals, railroad crossings, etc.

Instantaneous fuel consumption mode



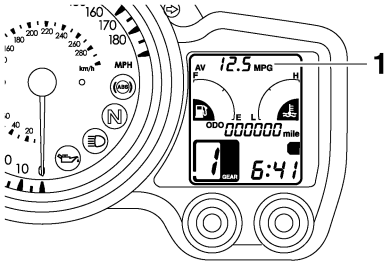

1. Instantaneous fuel consumption

This display shows the distance that can be traveled on 1.0 Imp.gal of fuel under the current riding conditions.

**NOTE:**

If traveling at speeds under 10 km/h (6.0 mi/h), "_ _._" will be displayed.

Average fuel consumption mode




1. Average fuel consumption

This display shows the average fuel consumption since it was last reset.
When the average fuel consumption mode is selected, the display flashes for five seconds, and then "AV _ _._ MPG" (average distance that can be traveled using 1.0 Imp.gal of fuel) is displayed.

**NOTE:**

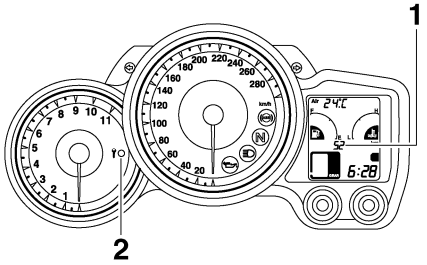
- To reset the average fuel consumption display, push the "RESET" button to select the mode again, and then push the "RESET" button for 1 second while the display is flashing.
- After resetting the average fuel consumption display, "_ _._" will be shown for that display until the vehicle has traveled 1 km (0.6 mi).

ECA15472

**CAUTION:**

**If there is a malfunction, "– –.–" will be displayed. Have a Yamaha dealer check the vehicle.**

**Self-diagnosis device**




1. Error code display
2. Immobilizer system indicator light

This model is equipped with a self-diagnosis device for various electrical circuits.

If any of those circuits are defective, the multi-function display will indicate a two-digit error code (e.g., 11, 12, 13).
If the multi-function display indicates such an error code, note the code number, and then have a Yamaha dealer check the vehicle.

ECA11790

**CAUTION:**

**If the multi-function display indicates an error code, the vehicle should be checked as soon as possible in order to avoid engine damage.**

This model is also equipped with a self-diagnosis device for the immobilizer system.
If any of the immobilizer system circuits are defective, the immobilizer system indicator light will flash, and then the multi-function display will indicate a two-digit error code (e.g., 51, 52, 53) when the key is turned to “ON”.

**NOTE:**

If the multi-function display indicates error code 52, this could be caused by transponder interference. If this error appears, try the following.

1. Use the code re-registering key to start the engine.

**NOTE:**

Make sure there are no other immobilizer keys close to the main switch, and do not keep more than one immobilizer key on the same key ring! Immobilizer system keys may cause signal interference, which may prevent the engine from starting.

2. If the engine starts, turn it off, and try starting the engine with the standard keys.
3. If one or both of the standard keys do not start the engine, take the vehicle, the code re-registering key and both standard keys to a Yamaha dealer and have the standard keys re-registered.

If the multi-function display indicates any error codes, note the code number, and then have a Yamaha dealer check the vehicle.

EAU12331

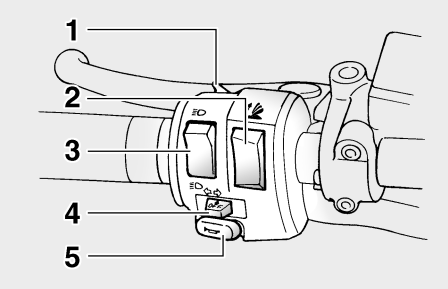
## Anti-theft alarm (optional)

This model can be equipped with an optional anti-theft alarm by a Yamaha dealer. Contact a Yamaha dealer for more information.

EAU12345

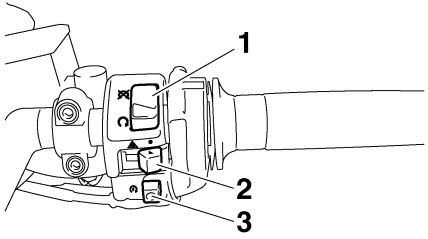
## Handlebar switches

### Left




1. Pass switch "≣D"
2. Windshield position adjusting switch "⁄"
3. Dimmer switch "≣D/≣D"
4. Turn signal switch "⇦/⇨"
5. Horn switch "⊃"

### Right




1. Engine stop switch "◯/⊠"
2. Hazard switch "⚠"
3. Start switch "ⓢ"

EAU12380

**Pass switch "≣D"**

Press this switch to flash the headlights.

EAU12400

**Dimmer switch "≣D/≣D"**

Set this switch to "≣D" for the high beam and to "≣D" for the low beam.

EAU12460

**Turn signal switch "⇦/⇨"**

To signal a right-hand turn, push this switch to "⇨". To signal a left-hand turn, push this switch to "⇦". When released, the switch returns to the center

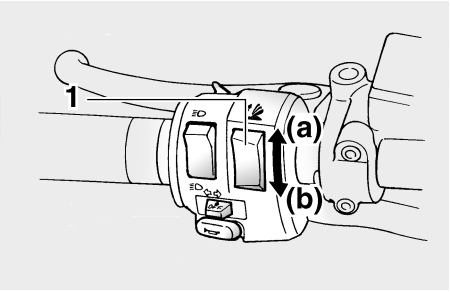
position. To cancel the turn signal lights, push the switch in after it has returned to the center position.

EAU12493

**Windshield position adjusting switch "⁄"**

To move the windshield up, push this switch in direction (a). To move the windshield down, push the switch in direction (b).






1. Windshield position adjusting switch "⁄"

**NOTE:**

When the key is turned to "OFF", the windshield will automatically return to the lowest position.

EAU12500

**Horn switch "⊃"**

Press this switch to sound the horn.

EAU12660

**Engine stop switch "○/⊗"**

Set this switch to "○" before starting the engine. Set this switch to "⊗" to stop the engine in case of an emergency, such as when the vehicle overturns or when the throttle cable is stuck.

EAU12710

**Start switch "⊜"**

Push this switch to crank the engine with the starter.

ECA10050

**CAUTION:**

**See page 5-1 for starting instructions prior to starting the engine.**

EAU12733

**Hazard switch "△"**

With the key in the "ON" or "P≤" position, use this switch to turn on the hazard lights (simultaneous flashing of all turn signal lights).

The hazard lights are used in case of an emergency or to warn other drivers when your vehicle is stopped where it might be a traffic hazard.

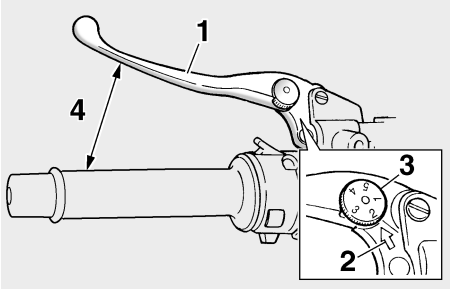
ECA10061

**CAUTION:**

**Do not use the hazard lights for an extended length of time with the engine not running, otherwise the battery may discharge.**

## Clutch lever

EAU12830




1. Clutch lever
2. Arrow mark
3. Clutch lever position adjusting dial
4. Distance between clutch lever and handlebar grip

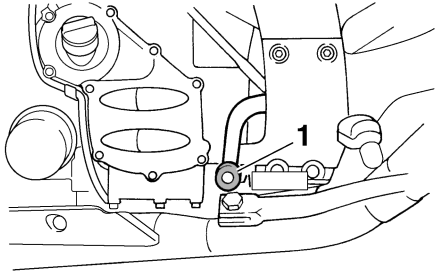
The clutch lever is located at the left handlebar grip. To disengage the clutch, pull the lever toward the handlebar grip. To engage the clutch, release the lever. The lever should be pulled rapidly and released slowly for smooth clutch operation.

The clutch lever is equipped with a clutch lever position adjusting dial. To adjust the distance between the clutch lever and the handlebar grip, turn the adjusting dial while holding the lever pushed away from the handlebar grip. Make sure that the appropriate setting on the adjusting dial is aligned with the arrow mark on the clutch lever.

The clutch lever is equipped with a clutch switch, which is part of the ignition circuit cut-off system. (See page 3-30.)

## Shift pedal

EAU12870



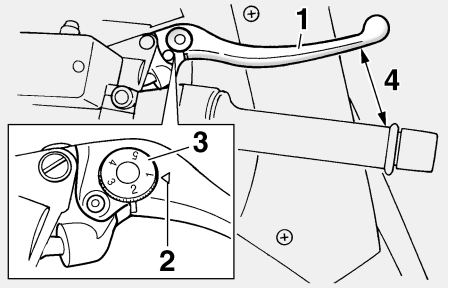

1. Shift pedal

The shift pedal is located on the left side of the engine and is used in combination with the clutch lever when shifting the gears of the 5-speed constant-mesh transmission equipped on this motorcycle.

EAU26822

## Brake lever

The brake lever is located at the right handlebar grip. To apply the front brake, pull the lever toward the handlebar grip.

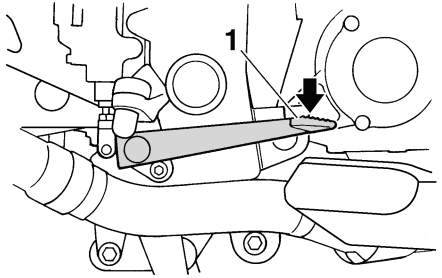



1. Brake lever
2. " △ " mark
3. Brake lever position adjusting dial
4. Distance between brake lever and handlebar grip

The brake lever is equipped with a position adjusting dial. To adjust the distance between the brake lever and the handlebar grip, turn the adjusting dial while holding the lever pushed away from the handlebar grip. Make sure that the appropriate setting on the adjusting dial is aligned with the " △ " mark on the brake lever.

EAU39540

## Brake pedal




1. Brake pedal

The brake pedal is on the right side of the vehicle.
This model is equipped with a unified brake system.
When pressing down on the brake pedal, the rear brake and a portion of the front brake are applied. For full braking performance, apply both the brake lever and the brake pedal simultaneously.

EAU39530

## ABS

The Yamaha ABS (Anti-lock Brake System) features a dual electronic control system, which acts on the front and rear brakes independently. The ABS is monitored by an ECU (Electronic Control Unit), which will have recourse to manual braking if a malfunction occurs.

EWA10090

**⚠ WARNING**

- **The ABS performs best on long braking distances.**
- **On certain (rough or gravel) roads, the braking distance may be longer with than without the ABS. Therefore, always keep a sufficient distance to the vehicle ahead to match the riding speed.**

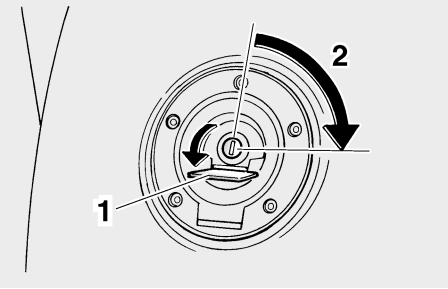
**NOTE:**

- When the ABS is activated, the brakes are operated in the usual way. A pulsating action may be felt at the brake lever or brake pedal, but this does not indicate a malfunction.

- This ABS has a test mode which allows the owner to experience the pulsating at the brake lever or brake pedal when the ABS is operating. However, special tools are required, so please consult your Yamaha dealer when performing this test.

EAU13070

## Fuel tank cap




1. Fuel tank cap lock cover
2. Unlock.

**To open the fuel tank cap**

Open the fuel tank cap lock cover, insert the key into the lock, and then turn it 1/4 turn clockwise. The lock will be released and the fuel tank cap can be opened.

**To close the fuel tank cap**

1. Push the fuel tank cap into position with the key inserted in the lock.
2. Turn the key counterclockwise to the original position, remove it, and then close the lock cover.

**NOTE:**

The fuel tank cap cannot be closed unless the key is in the lock. In addition, the key cannot be removed if the cap is not properly closed and locked.

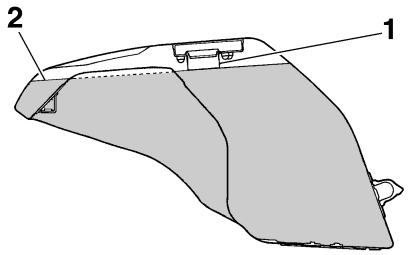
EWA11090

**⚠ WARNING**

**Make sure that the fuel tank cap is properly closed before riding.**

## Fuel

EAU13220




1. Fuel tank filler tube
2. Fuel level

Make sure that there is sufficient fuel in the tank. When refueling, be sure to insert the pump nozzle into the fuel tank filler hole and to fill the tank to the bottom of the filler tube as shown.

EWA10880

**⚠ WARNING**

- **Do not overfill the fuel tank, otherwise it may overflow when the fuel warms up and expands.**
- **Avoid spilling fuel on the hot engine.**

ECA10070

**CAUTION:**

**Immediately wipe off spilled fuel with a clean, dry, soft cloth, since fuel may deteriorate painted surfaces or plastic parts.**

EAU13320

**Recommended fuel:**
REGULAR UNLEADED GASOLINE ONLY
**Fuel tank capacity:**
25.0 L (6.61 US gal) (5.50 Imp.gal)
**Fuel reserve amount:**
5.5 L (1.45 US gal) (1.21 Imp.gal)

ECA11400

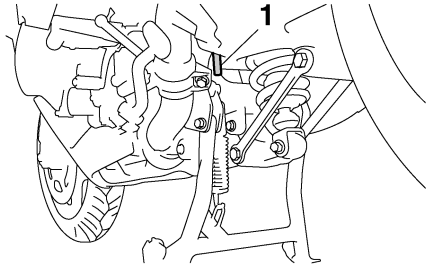
**CAUTION:**

**Use only unleaded gasoline. The use of leaded gasoline will cause severe damage to internal engine parts, such as the valves and piston rings, as well as to the exhaust system.**

Your Yamaha engine has been designed to use regular unleaded gasoline with a research octane number of 91 or higher. If knocking (or pinging) occurs, use a gasoline of a different brand or premium unleaded fuel. Use of unleaded fuel will extend spark plug life and reduce maintenance costs.

EAU39450

## Fuel tank breather/overflow hose




1. Fuel tank breather/overflow hose

Before operating the motorcycle:

- Check the fuel tank breather/overflow hose connection.
- Check the fuel tank breather/overflow hose for cracks or damage, and replace it if damaged.
- Make sure that the end of the fuel tank breather/overflow hose is not blocked, and clean it if necessary.

EAU13441

## Catalytic converter

This vehicle is equipped with catalytic converters in the exhaust system.

EWA10860

**⚠ WARNING**

**The exhaust system is hot after operation. Make sure that the exhaust system has cooled down before doing any maintenance work.**

ECA10700

**CAUTION:**

**The following precautions must be observed to prevent a fire hazard or other damages.**

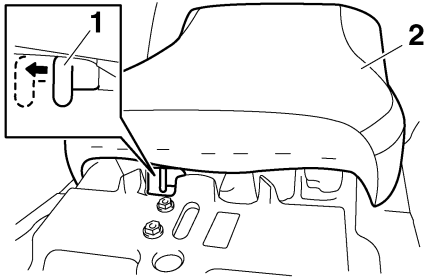
- **Use only unleaded gasoline. The use of leaded gasoline will cause unrepairable damage to the catalytic converter.**
- **Never park the vehicle near possible fire hazards such as grass or other materials that easily burn.**
- **Do not allow the engine to idle too long.**

EAU40960

## Seat

### To remove the seat

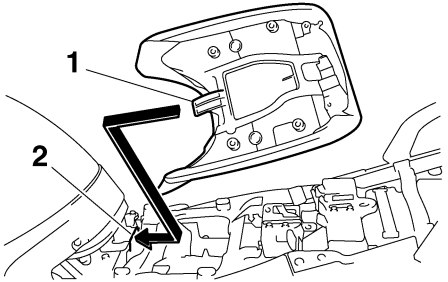
Push the seat lock lever, located under the back of the seat, to the left as shown, and then pull the seat off.




1. Seat lock lever
2. Seat

### To install the seat

Insert the projection on the front of the seat into the seat holder as shown, and then push the rear of the seat down to lock it in place.




1. Projection
2. Seat holder

**NOTE:**

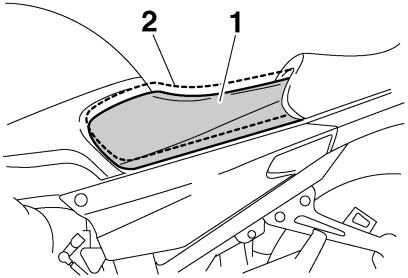
- Make sure that the seat is properly secured before riding.
- The seat height can be adjusted to change the riding position. (See page 3-20.)

EAU40970

## Adjusting the seat height

The seat height can be adjusted to one of two positions to suit the rider's preference.

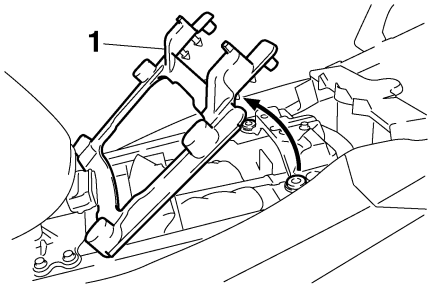
The seat height was adjusted to the lower position at delivery.




1. Low position
2. High position

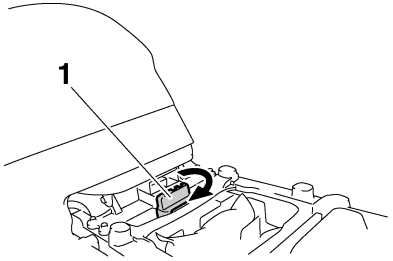
**To change the seat height to the high position**

1. Remove the seat. (See page 3-19.)
2. Remove the seat height position adjuster by pulling it upward.



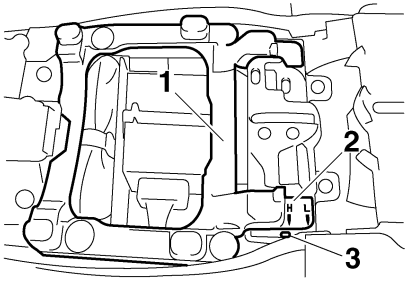

1. Seat height position adjuster

3. Move the seat holder cover to the lower position as shown.



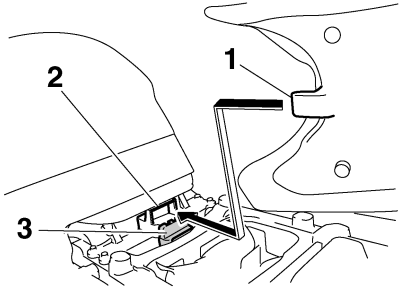

1. Seat holder cover

4. Install the seat height position adjuster so that the "H" mark is aligned with the match mark.



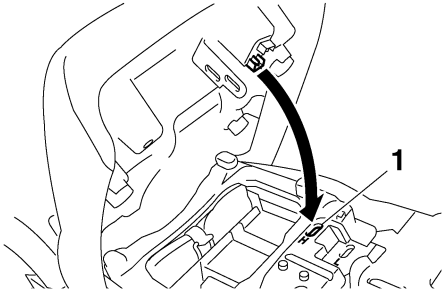

1. Seat height position adjuster
2. "H" mark
3. Match mark

5. Insert the projection on the front of the seat into seat holder B as shown.




1. Projection
2. Seat holder B (for high position)
3. Seat holder cover

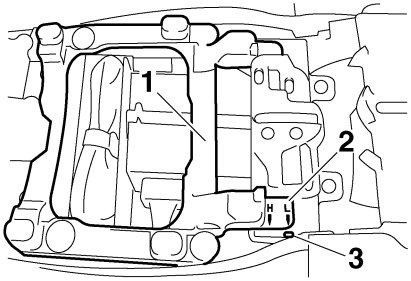
6. Align the projection on the bottom of the seat with the "H" position slot, and then push the rear of the seat down to lock it in place as shown.




1. "H" position slot

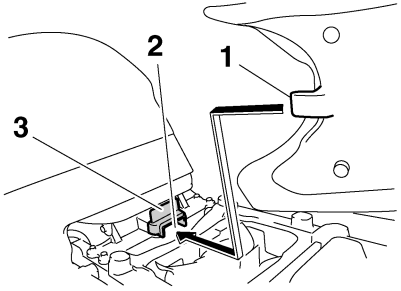
**To change the seat height to the low position**

1. Remove the seat. (See page 3-19.)
2. Remove the seat height position adjuster by pulling it upward.
3. Move the seat holder cover to the upper position.
4. Install the seat height position adjuster so that the "L" mark is aligned with the match mark.



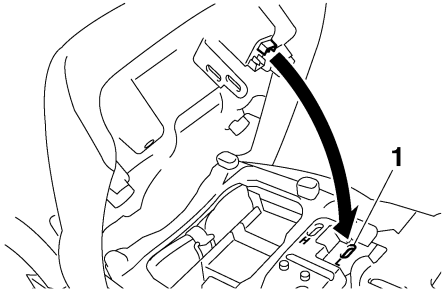

1. Seat height position adjuster
2. "L" mark
3. Match mark

5. Insert the projection on the front of the seat into seat holder A as shown.




1. Projection
2. Seat holder A (for low position)
3. Seat holder cover

6. Align the projection on the bottom of the seat with the “L” position slot, and then push the rear of the seat down to lock it in place as shown.



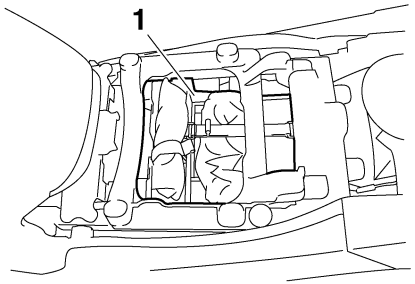

1. “L” position slot

**NOTE:**

Make sure that the seat is properly secured before riding.

EAU14451

## Storage compartment




1. Storage compartment

The storage compartment is located under the seat. (See page 3-19.)

EWA10961

**⚠ WARNING**

- **Do not exceed the load limit of 1 kg (2 lb) for the storage compartment.**
- **Do not exceed the maximum load of 215 kg (474 lb) for the vehicle.**

When storing the owner’s manual or other documents in the storage compartment, be sure to wrap them in a plastic bag so that they will not get wet.

When washing the vehicle, be careful not to let any water enter the storage compartment.

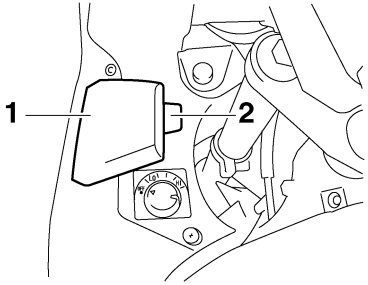
EAU39480

## Accessory box

The accessory box is located beside the meter panel.

**To open the accessory box**

1. Insert the key into the main switch, and then turn it to "ON".
2. Push the accessory box button, and then open the accessory box lid.




1. Accessory box
2. Accessory box button

3. Turn the key to "OFF" to preserve the battery.

**To close the accessory box**

1. Fold the accessory box lid down.
2. Remove the key.

ECA11800

**CAUTION:**

**Do not place heat-sensitive items in the accessory box. The accessory box gets extremely hot especially when the engine is running or is hot.**

EWA11421

**⚠ WARNING**

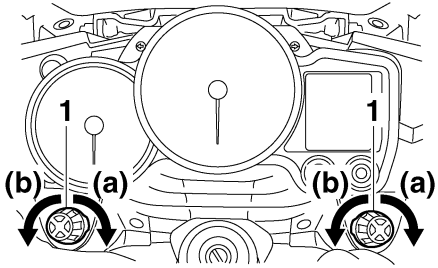
- **Do not exceed the load limit of 0.3 kg (0.66 lb) for the accessory box.**
- **Do not exceed the maximum load of 215 kg (474 lb) for the vehicle.**

EAU39610

## Adjusting the headlight beams

The headlight adjusting knobs are used to raise or lower the height of the headlight beams. It may be necessary to adjust the headlight beams to increase visibility and help prevent blinding oncoming drivers when carrying more or less load than usual. Obey local laws and regulations when adjusting the headlights.

To raise the headlight beams, turn the knobs in direction (a). To lower the headlight beams, turn the knobs in direction (b).

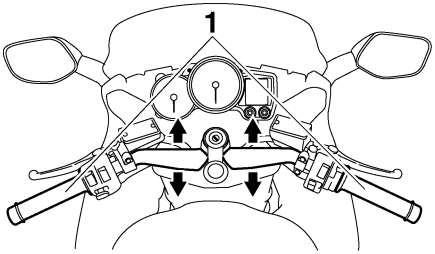



1. Headlight beam adjusting knob

EAU39641

## Handlebar position

The handlebars can be adjusted to one of three positions to suit the rider's preference. Have a Yamaha dealer adjust the position of the handlebars.

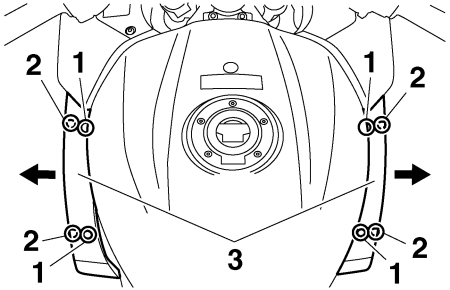



1. Handlebar

EAU39621

## Opening and closing the cowlings

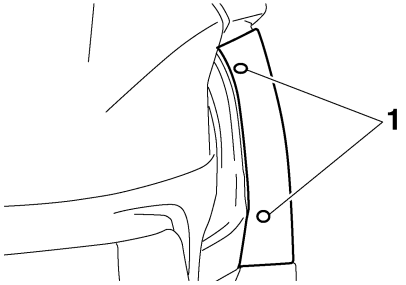
The cowlings can be tilted back 30 mm (1.18 in) for added ventilation to suit the riding conditions.




1. Closed position
2. Open position
3. Cowling

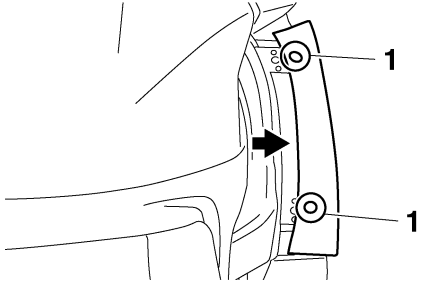
### To open a cowling

1. Remove the quick fastener screws.




1. Quick fastener screw

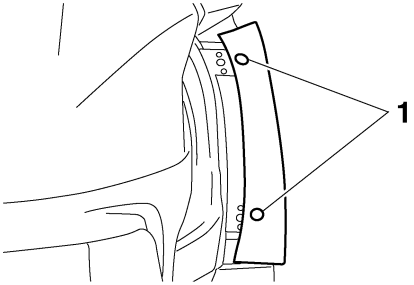
2. Pull the cowling to the open position, and then install the quick fastener screws.




1. Open position

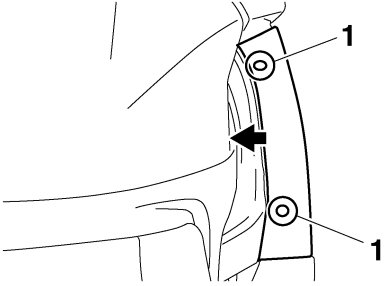
### To close a cowling

1. Remove the quick fastener screws.




1. Quick fastener screw

2. Push the cowling to the closed position, and then install the quick fastener screws.




1. Closed position

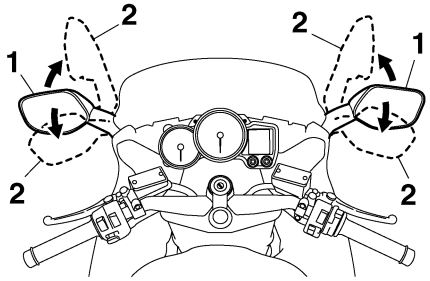
**NOTE:**

Make sure that the cowling is properly installed before riding.

EAU39671

## Rear view mirrors

The rear view mirrors of this vehicle can be folded forward or backward for parking in narrow spaces. Fold the mirrors back to their original position before riding.




1. Riding position
2. Parking position

EWA14371

**⚠ WARNING**

**Be sure to fold the rear view mirrors back to their original position before riding.**

EAU14731

## Adjusting the front fork

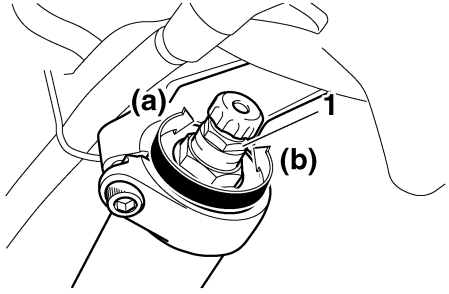
This front fork is equipped with spring preload adjusting bolts, rebound damping force adjusting knobs and compression damping force adjusting screws.

EWA10180

**⚠ WARNING**

**Always adjust both fork legs equally, otherwise poor handling and loss of stability may result.**

### Spring preload



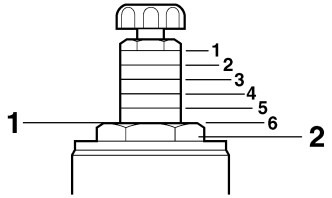

1. Spring preload adjusting bolt

To increase the spring preload and thereby harden the suspension, turn the adjusting bolt on each fork leg in direction (a). To decrease the spring pre-

load and thereby soften the suspension, turn the adjusting bolt on each fork leg in direction (b).

**NOTE:**
Align the appropriate groove on the adjusting mechanism with the top of the front fork cap bolt.

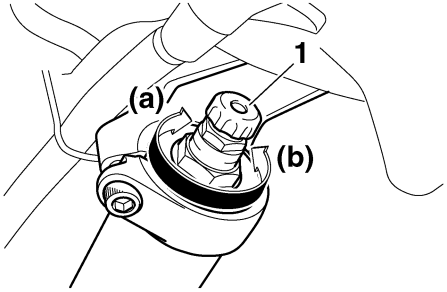





1. Current setting
2. Front fork cap bolt

**Spring preload setting:**
Minimum (soft):
6
Standard:
4
Maximum (hard):
1

**Rebound damping force**

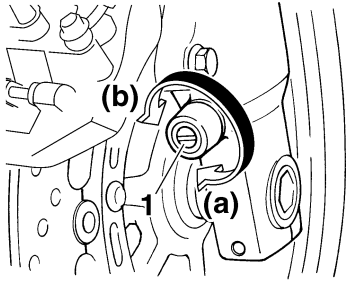



1. Rebound damping force adjusting knob

To increase the rebound damping force and thereby harden the rebound damping, turn the adjusting knob on each fork leg in direction (a). To decrease the rebound damping force and thereby soften the rebound damping, turn the adjusting knob on each fork leg in direction (b).

**Rebound damping setting:**
Minimum (soft):
17 click(s) in direction (b)*
Standard:
12 click(s) in direction (b)*
Maximum (hard):
1 click(s) in direction (b)*
* With the adjusting knob fully turned in direction (a)

**Compression damping force**




1. Compression damping force adjusting screw

To increase the compression damping force and thereby harden the compression damping, turn the adjusting screw on each fork leg in direction (a). To decrease the compression damping force and thereby soften the compression damping, turn the adjusting screw on each fork leg in direction (b).

**Compression damping setting:**
Minimum (soft):
21 click(s) in direction (b)*
Standard:
12 click(s) in direction (b)*
Maximum (hard):
1 click(s) in direction (b)*
* With the adjusting screw fully turned in direction (a)

ECA10100

**CAUTION:**

**Never attempt to turn an adjusting mechanism beyond the maximum or minimum settings.**

**NOTE:**

Although the total number of clicks of a damping force adjusting mechanism may not exactly match the above specifications due to small differences in production, the actual number of clicks always represents the entire adjusting range. To obtain a precise adjustment, it would be advisable to check the number of clicks of each damping force adjusting mechanism and to modify the specifications as necessary.

EAU40980

## Adjusting the shock absorber assembly

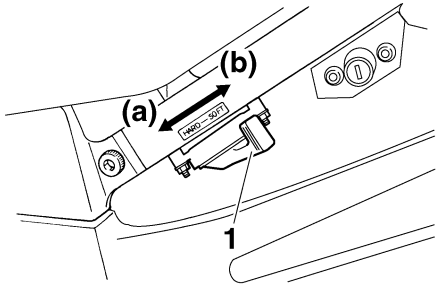
This shock absorber assembly is equipped with a spring preload adjusting lever and a rebound damping force adjusting knob.

ECA10100

**CAUTION:**

**Never attempt to turn an adjusting mechanism beyond the maximum or minimum settings.**

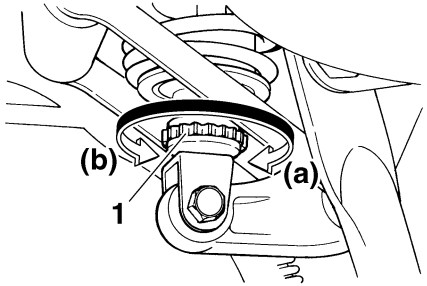
### Spring preload




1. Spring preload adjusting lever

To decrease the spring preload and thereby soften the suspension, move the spring preload adjusting lever in direction (b). To increase the spring preload and thereby harden the suspension, move the spring preload adjusting lever in direction (a).

### Rebound damping force




1. Rebound damping force adjusting knob

To increase the rebound damping force and thereby harden the rebound damping, turn the adjusting knob in direction (a). To decrease the rebound damping force and thereby soften the rebound damping, turn the adjusting knob in direction (b).

**Rebound damping setting:**
Minimum (soft):
20 click(s) in direction (b)*
Standard:
12 click(s) in direction (b)*
Maximum (hard):
3 click(s) in direction (b)*
* With the adjusting knob fully turned in direction (a)



EWA10220

**⚠ WARNING**

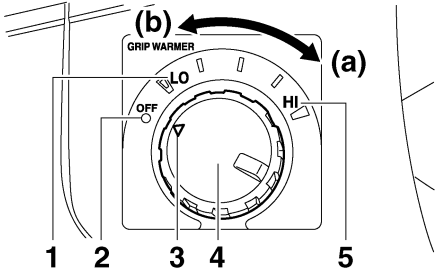
**This shock absorber contains highly pressurized nitrogen gas. For proper handling, read and understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.**

- **Do not tamper with or attempt to open the gas cylinder.**
- **Do not subject the shock absorber to an open flame or other high heat sources, otherwise it may explode due to excessive gas pressure.**
- **Do not deform or damage the gas cylinder in any way, as this will result in poor damping performance.**
- **Always have a Yamaha dealer service the shock absorber.**

EAU40501

## Grip warmer adjusting knob

This vehicle is equipped with grip warmers, which can only be used when the engine is running.
Use the grip warmer adjusting knob, located near the accessory box, to adjust the grip warmer temperature.




1. "LO" position
2. "OFF" position
3. "△" mark
4. Grip warmer adjusting knob
5. "HI" position

The grip warmer adjusting knob can be set between the "LO" and "HI" positions. To raise the temperature, turn the knob in direction (a). To lower the temperature, turn the knob in direction (b). Align the "△" mark on the knob with "OFF" to turn the grip warmers off.

**NOTE:**

When the vehicle is stopped or traveling at extremely low speeds (e.g., in traffic jams), the grip warmer temperature is lower than when traveling at higher speeds.

ECA15520

**CAUTION:**

- **Be sure to wear gloves when using the grip warmers.**
- **If the ambient temperature is 20 °C (68 °F) or higher, do not set the grip warmer adjusting knob to the "HI" position.**
- **If the handlebar grip or throttle grip becomes worn or damaged, stop using the grip warmers and replace the grips.**

EWA14510

**⚠ WARNING**

**Do not turn the grip warmer knob while the vehicle is moving.**

EAU15301

## Sidestand

The sidestand is located on the left side of the frame. Raise the sidestand or lower it with your foot while holding the vehicle upright.

**NOTE:**

The built-in sidestand switch is part of the ignition circuit cut-off system, which cuts the ignition in certain situations. (See further down for an explanation of the ignition circuit cut-off system.)

EWA10240

**⚠ WARNING**

**The vehicle must not be ridden with the sidestand down, or if the sidestand cannot be properly moved up (or does not stay up), otherwise the sidestand could contact the ground and distract the operator, resulting in a possible loss of control. Yamaha's ignition circuit cut-off system has been designed to assist the operator in fulfilling the responsibility of raising the sidestand before starting off. Therefore, check this system regularly as described below and have a Yamaha dealer repair it if it does not function properly.**

EAU15321

## Ignition circuit cut-off system

The ignition circuit cut-off system (comprising the sidestand switch, clutch switch and neutral switch) has the following functions.

- It prevents starting when the transmission is in gear and the sidestand is up, but the clutch lever is not pulled.
- It prevents starting when the transmission is in gear and the clutch lever is pulled, but the sidestand is still down.
- It cuts the running engine when the transmission is in gear and the sidestand is moved down.

Periodically check the operation of the ignition circuit cut-off system according to the following procedure.

EWA10260

**⚠ WARNING**

- **The vehicle must be placed on the centerstand during this inspection.**
- **If a malfunction is noted, have a Yamaha dealer check the system before riding.**

With the engine turned off:
1. Move the sidestand down.
2. Make sure that the engine stop switch is turned on.
3. Turn the key on.
4. Shift the transmission into the neutral position.
5. Push the start switch.

**Does the engine start?**

**YES** **NO** → The neutral switch may be defective. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

With the engine still running:
6. Move the sidestand up.
7. Keep the clutch lever pulled.
8. Shift the transmission into gear.
9. Move the sidestand down.

**Does the engine stall?**

**YES** **NO** → The sidestand switch may be defective. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

After the engine has stalled:
10. Move the sidestand up.
11. Keep the clutch lever pulled.
12. Push the start switch.

**Does the engine start?**

**YES** **NO** → The clutch switch may be defective. **The motorcycle should not be ridden** until checked by a Yamaha dealer.

The system is OK. **The motorcycle can be ridden.**

**NOTE:**
This check is most reliable if performed with a warmed-up engine.

EAU39651

## Auxiliary DC jack

This vehicle is equipped with an auxiliary DC jack in the accessory box.
A 12-V accessory connected to the auxiliary jack can be used when the key is in the "ON" position and should only be used when the engine is running.



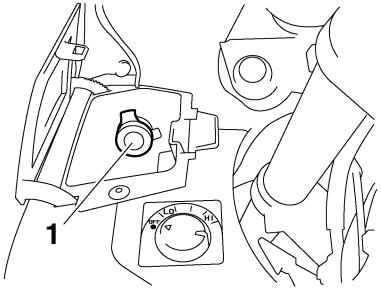
ECA15430

**CAUTION:**

**The accessory connected to the auxiliary DC jack should not be used with the engine turned off, and the load must never exceed 30 W (2.5 A), otherwise the battery may discharge.**

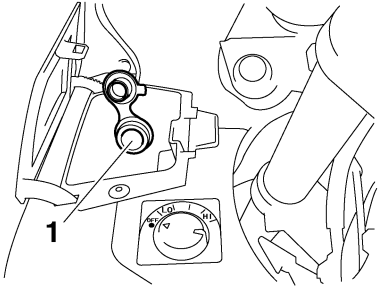
**To use the auxiliary DC jack**

1. Open the accessory box lid. (See page 3-23.)
2. Turn the key to "OFF".
3. Remove the auxiliary DC jack cap.




1. Auxiliary DC jack cap

4. Insert the accessory plug into the auxiliary DC jack.




1. Auxiliary DC jack

5. Turn the key to "ON", and then start the engine. (See page 5-1.)

EWA14360

**WARNING**

**To prevent electrical shock or short-circuiting, make sure that the cap is installed when the auxiliary DC jack is not being used.**

EAU15591

The condition of a vehicle is the owner's responsibility. Vital components can start to deteriorate quickly and unexpectedly, even if the vehicle remains unused (for example, as a result of exposure to the elements). Any damage, fluid leakage or loss of tire air pressure could have serious consequences. Therefore, it is very important, in addition to a thorough visual inspection, to check the following points before each ride.

**NOTE:**

Pre-operation checks should be made each time the vehicle is used. Such an inspection can be accomplished in a very short time; and the added safety it assures is more than worth the time involved.

EWA11150

**⚠ WARNING**

**If any item in the Pre-operation check list is not working properly, have it inspected and repaired before operating the vehicle.**

EAU15603

## Pre-operation check list

| ITEM | CHECKS | PAGE |
|---|---|---|
| **Fuel** | • Check fuel level in fuel tank.<br>• Refuel if necessary.<br>• Check fuel line for leakage. | 3-18 |
| **Engine oil** | • Check oil level in engine.<br>• If necessary, add recommended oil to specified level.<br>• Check vehicle for oil leakage. | 6-8 |
| **Final gear oil** | • Check vehicle for oil leakage. | 6-10 |
| **Coolant** | • Check coolant level in reservoir.<br>• If necessary, add recommended coolant to specified level.<br>• Check cooling system for leakage. | 6-12 |
| **Front brake** | • Check operation.<br>• If soft or spongy, have Yamaha dealer bleed hydraulic system.<br>• Check brake pads for wear.<br>• Replace if necessary.<br>• Check fluid level in reservoir.<br>• If necessary, add recommended brake fluid to specified level.<br>• Check hydraulic system for leakage. | 6-19, 6-20 |
| **Rear brake** | • Check operation.<br>• If soft or spongy, have Yamaha dealer bleed hydraulic system.<br>• Check brake pads for wear.<br>• Replace if necessary.<br>• Check fluid level in reservoir.<br>• If necessary, add recommended brake fluid to specified level.<br>• Check hydraulic system for leakage. | 6-19, 6-20 |
| **Clutch** | • Check operation.<br>• If soft or spongy, have Yamaha dealer bleed hydraulic system.<br>• Check fluid level in reservoir.<br>• If necessary, add recommended fluid to specified level.<br>• Check hydraulic system for leakage. | 6-19, 6-20 |

| ITEM | CHECKS | PAGE |
|---|---|---|
| **Throttle grip** | • Make sure that operation is smooth.<br>• Check cable free play.<br>• If necessary, have Yamaha dealer adjust cable free play and lubricate cable and grip housing. | 6-15, 6-22 |
| **Control cables** | • Make sure that operation is smooth.<br>• Lubricate if necessary. | 6-22 |
| **Wheels and tires** | • Check for damage.<br>• Check tire condition and tread depth.<br>• Check air pressure.<br>• Correct if necessary. | 6-16, 6-18 |
| **Brake and shift pedals** | • Make sure that operation is smooth.<br>• Lubricate pedal pivoting points if necessary. | 6-22 |
| **Brake and clutch levers** | • Make sure that operation is smooth.<br>• Lubricate lever pivoting points if necessary. | 6-23 |
| **Centerstand, sidestand** | • Make sure that operation is smooth.<br>• Lubricate pivots if necessary. | 6-24 |
| **Chassis fasteners** | • Make sure that all nuts, bolts and screws are properly tightened.<br>• Tighten if necessary. | — |
| **Instruments, lights, signals and switches** | • Check operation.<br>• Correct if necessary. | — |
| **Sidestand switch** | • Check operation of ignition circuit cut-off system.<br>• If system is defective, have Yamaha dealer check vehicle. | 3-29 |

EAU15950

EWA10270

**⚠ WARNING**

- **Become thoroughly familiar with all operating controls and their functions before riding. Consult a Yamaha dealer regarding any control or function that you do not thoroughly understand.**
- **Never start the engine or operate it in a closed area for any length of time. Exhaust fumes are poisonous, and inhaling them can cause loss of consciousness and death within a short time. Always make sure that there is adequate ventilation.**
- **Before starting out, make sure that the sidestand is up. If the sidestand is not raised completely, it could contact the ground and distract the operator, resulting in a possible loss of control.**



EAU39890

## Starting the engine

In order for the ignition circuit cut-off system to enable starting, one of the following conditions must be met:

- The transmission is in the neutral position.
- The transmission is in gear with the clutch lever pulled and the sidestand up.

EWA10290

**⚠ WARNING**

- **Before starting the engine, check the function of the ignition circuit cut-off system according to the procedure described on page 3-30.**
- **Never ride with the sidestand down.**

1. Turn the key to "ON" and make sure that the engine stop switch is set to "○".

ECA15450

**CAUTION:**

**The following warning lights and indicator light should come on for a few seconds, then go off.**

- **Oil level warning light**
- **Engine trouble warning light**
- **Immobilizer system indicator light**
- **ABS warning light**

**If a warning or indicator light does not go off, see page 3-3 for the corresponding warning and indicator light circuit check.**

2. Shift the transmission into the neutral position.

**NOTE:**

When the transmission is in the neutral position, the neutral indicator light should be on, otherwise have a Yamaha dealer check the electrical circuit.

3. Start the engine by pushing the start switch.

**NOTE:**

If the engine fails to start, release the start switch, wait a few seconds, and then try again. Each starting attempt should be as short as possible to preserve the battery. Do not crank the engine more than 10 seconds on any one attempt.

ECA11040

**CAUTION:**

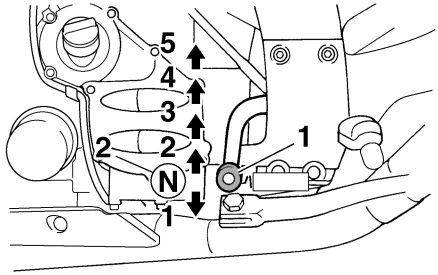
**For maximum engine life, never accelerate hard when the engine is cold!**

**NOTE:**

The engine is warm when it quickly responds to the throttle.

EAU16671

## Shifting




1. Shift pedal
2. Neutral position

Shifting gears lets you control the amount of engine power available for starting off, accelerating, climbing hills, etc.
The gear positions are shown in the illustration.

**NOTE:**

To shift the transmission into the neutral position, press the shift pedal down repeatedly until it reaches the end of its travel, and then slightly raise it.

ECA10260

**CAUTION:**

- **Even with the transmission in the neutral position, do not coast for long periods of time with the engine off, and do not tow the motorcycle for long distances. The transmission is properly lubricated only when the engine is running. Inadequate lubrication may damage the transmission.**
- **Always use the clutch while changing gears to avoid damaging the engine, transmission, and drive train, which are not designed to withstand the shock of forced shifting.**

5

EAU16810

## Tips for reducing fuel consumption

Fuel consumption depends largely on your riding style. Consider the following tips to reduce fuel consumption:

- Shift up swiftly, and avoid high engine speeds during acceleration.
- Do not rev the engine while shifting down, and avoid high engine speeds with no load on the engine.
- Turn the engine off instead of letting it idle for an extended length of time (e.g., in traffic jams, at traffic lights or at railroad crossings).



EAU16841

## Engine break-in

There is never a more important period in the life of your engine than the period between 0 and 1600 km (1000 mi). For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 1600 km (1000 mi). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.

EAU17121

**0–1000 km (0–600 mi)**

Avoid prolonged operation above 4500 r/min.

**1000–1600 km (600–1000 mi)**

Avoid prolonged operation above 5400 r/min.

ECA10331

**CAUTION:**

**After 1000 km (600 mi) of operation, the engine oil and final gear oil must be changed, and the oil filter cartridge or element replaced.**

**1600 km (1000 mi) and beyond**

The vehicle can now be operated normally.

ECA10310

**CAUTION:**

- **Keep the engine speed out of the tachometer red zone.**
- **If any engine trouble should occur during the engine break-in period, immediately have a Yamaha dealer check the vehicle.**

EAU17212

## Parking

When parking, stop the engine, and then remove the key from the main switch.

EWA10310

**⚠ WARNING**

- **Since the engine and exhaust system can become very hot, park in a place where pedestrians or children are not likely to touch them.**
- **Do not park on a slope or on soft ground, otherwise the vehicle may overturn.**

ECA10380

**CAUTION:**

**Never park in an area where there are fire hazards such as grass or other flammable materials.**

EAU17240

Safety is an obligation of the owner. Periodic inspection, adjustment and lubrication will keep your vehicle in the safest and most efficient condition possible. The most important points of inspection, adjustment, and lubrication are explained on the following pages.
The intervals given in the periodic maintenance and lubrication chart should be simply considered as a general guide under normal riding conditions. However, DEPENDING ON THE WEATHER, TERRAIN, GEOGRAPHICAL LOCATION, AND INDIVIDUAL USE, THE MAINTENANCE INTERVALS MAY NEED TO BE SHORTENED.



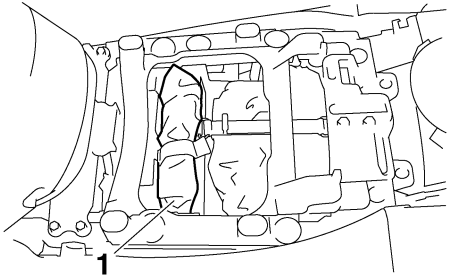
EWA10320

**⚠ WARNING**

**If you are not familiar with maintenance work, have a Yamaha dealer do it for you.**

EAU17380

## Owner's tool kit




1. Owner's tool kit

The owner's tool kit is located under the seat. (See page 3-19.)
The service information included in this manual and the tools provided in the owner's tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, additional tools such as a torque wrench may be necessary to perform certain maintenance work correctly.

**NOTE:**

If you do not have the tools or experience required for a particular job, have a Yamaha dealer perform it for you.

EWA10350

**⚠ WARNING**

**Modifications not approved by Yamaha may cause loss of performance and render the vehicle unsafe for use. Consult a Yamaha dealer before attempting any changes.**

EAU17705

## Periodic maintenance and lubrication chart

**NOTE:**

- **The annual checks must be performed every year, except if a kilometer-based maintenance is performed instead.**
- From 50000 km, repeat the maintenance intervals starting from 10000 km.
- Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

| NO. | | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (× 1000 km) | | | | | ANNUAL CHECK |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 10 | 20 | 30 | 40 | |
| 1 | * | **Fuel line** | • Check fuel hoses for cracks or damage. | | √ | √ | √ | √ | √ |
| 2 | * | **Spark plugs** | • Check condition.<br>• Clean and regap. | | √ | | √ | | |
| | | | • Replace. | | | √ | | √ | |
| 3 | * | **Valves** | • Check valve clearance.<br>• Adjust. | Every 40000 km | | | | | |
| 4 | | **Air filter element** | • Clean. | | √ | | √ | | |
| | | | • Replace. | | | √ | | √ | |
| 5 | * | **Clutch** | • Check operation, fluid level and vehicle for fluid leakage. | √ | √ | √ | √ | √ | |
| 6 | * | **Front brake** | • Check operation, fluid level and vehicle for fluid leakage. | √ | √ | √ | √ | √ | √ |
| | | | • Replace brake pads. | Whenever worn to the limit | | | | | |
| 7 | * | **Rear brake** | • Check operation, fluid level and vehicle for fluid leakage. | √ | √ | √ | √ | √ | √ |
| | | | • Replace brake pads. | Whenever worn to the limit | | | | | |
| 8 | * | **Brake hoses** | • Check for cracks or damage. | | √ | √ | √ | √ | √ |
| | | | • Replace. | Every 4 years | | | | | |

| NO. | | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (× 1000 km) | | | | | ANNUAL CHECK |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 10 | 20 | 30 | 40 | |
| 9 | * | **Wheels** | • Check runout and for damage. | | √ | √ | √ | √ | |
| 10 | * | **Tires** | • Check tread depth and for damage.<br>• Replace if necessary.<br>• Check air pressure.<br>• Correct if necessary. | | √ | √ | √ | √ | √ |
| 11 | * | **Wheel bearings** | • Check bearing for looseness or damage. | | √ | √ | √ | √ | |
| 12 | * | **Swingarm** | • Check operation and for excessive play. | | √ | √ | √ | √ | |
| | | | • Lubricate with lithium-soap-based grease. | Every 50000 km | | | | | |
| 13 | * | **Steering bearings** | • Check bearing play and steering for roughness. | √ | √ | √ | √ | √ | |
| | | | • Lubricate with lithium-soap-based grease. | Every 20000 km | | | | | |
| 14 | * | **Chassis fasteners** | • Make sure that all nuts, bolts and screws are properly tightened. | | √ | √ | √ | √ | √ |
| 15 | | **Sidestand, centerstand** | • Check operation.<br>• Lubricate. | | √ | √ | √ | √ | √ |
| 16 | * | **Sidestand switch** | • Check operation. | √ | √ | √ | √ | √ | √ |
| 17 | * | **Front fork** | • Check operation and for oil leakage. | | √ | √ | √ | √ | |
| 18 | * | **Shock absorber assembly** | • Check operation and shock absorber for oil leakage. | | √ | √ | √ | √ | |
| 19 | * | **Rear suspension relay arm and connecting arm pivoting points** | • Check operation. | | √ | √ | √ | √ | |
| | | | • Lubricate with lithium-soap-based grease. | | | √ | | √ | |
| 20 | * | **Fuel injection** | • Adjust engine idling speed and synchronization. | √ | √ | √ | √ | √ | √ |
| 21 | | **Engine oil** | • Change.<br>• Check oil level and vehicle for oil leakage. | √ | √ | √ | √ | √ | √ |
| 22 | | **Engine oil filter cartridge** | • Replace. | √ | | √ | | √ | |

| NO. | | ITEM | CHECK OR MAINTENANCE JOB | ODOMETER READING (× 1000 km) | | | | | ANNUAL CHECK |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 10 | 20 | 30 | 40 | |
| 23 | * | **Cooling system** | • Check coolant level and vehicle for coolant leakage. | | √ | √ | √ | √ | √ |
| | | | • Change. | Every 3 years | | | | | |
| 24 | | **Final gear oil** | • Check oil level and vehicle for oil leakage.<br>• Change. | √ | √ | √ | √ | √ | |
| 25 | * | **Front and rear brake switches** | • Check operation. | √ | √ | √ | √ | √ | √ |
| 26 | | **Moving parts and cables** | • Lubricate. | | √ | √ | √ | √ | √ |
| 27 | * | **Throttle grip housing and cable** | • Check operation and free play.<br>• Adjust the throttle cable free play if necessary.<br>• Lubricate the throttle grip housing and cable. | | √ | √ | √ | √ | √ |
| 28 | * | **Muffler and exhaust pipe** | • Check the screw clamp for looseness. | √ | √ | √ | √ | √ | |
| 29 | * | **Lights, signals and switches** | • Check operation.<br>• Adjust headlight beam. | √ | √ | √ | √ | √ | √ |

EAU17670

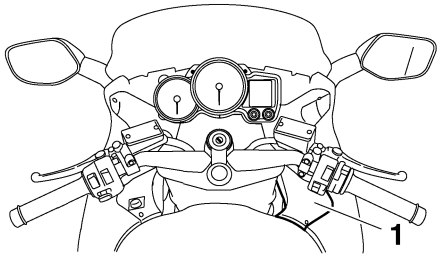
**NOTE:**

- The air filter needs more frequent service if you are riding in unusually wet or dusty areas.
- Hydraulic brake and clutch service
  - Regularly check and, if necessary, correct the brake and clutch fluid levels.
  - Every two years replace the internal components of the brake master cylinders and calipers as well as clutch master and release cylinders, and change the brake and clutch fluids.
  - Replace the brake and clutch hoses every four years and if cracked or damaged.

EAU18771

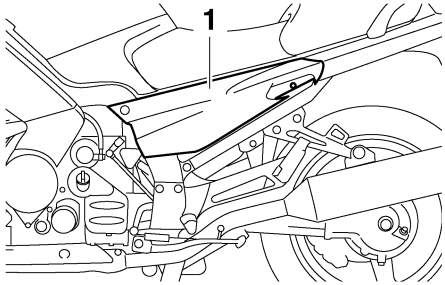
## Removing and installing panels

The panels shown need to be removed to perform some of the maintenance jobs described in this chapter. Refer to this section each time a panel needs to be removed and installed.

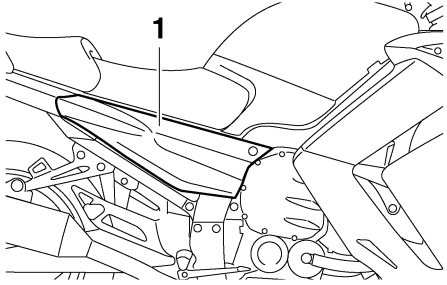



1. Panel A






1. Panel B



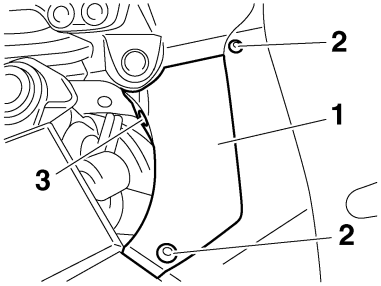

1. Panel C

EAU39550

### Panel A

To remove the panel

Remove the bolts and the quick fastener, and then take the panel off.




1. Panel A
2. Bolt
3. Quick fastener

To install the panel

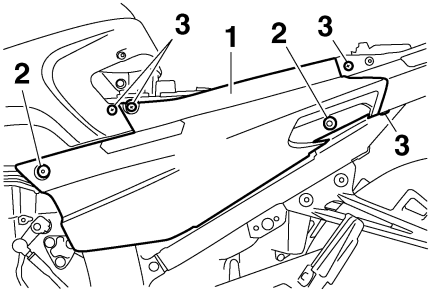
Place the panel in the original position, and then install the bolts and the quick fastener.

EAU41110

### Panel B

To remove the panel

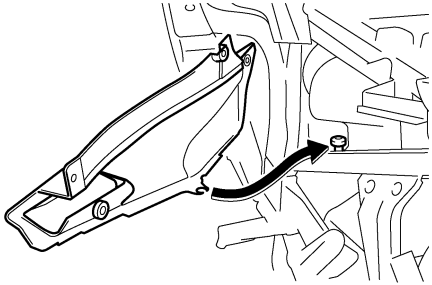
1. Remove the seat. (See page 3-19.)
2. Remove the bolts and the quick fastener screws, and then take the panel off.




1. Panel B
2. Bolt
3. Quick fastener screw

To install the panel

1. Place the panel in the original position, and then install the bolts and the quick fastener screws.



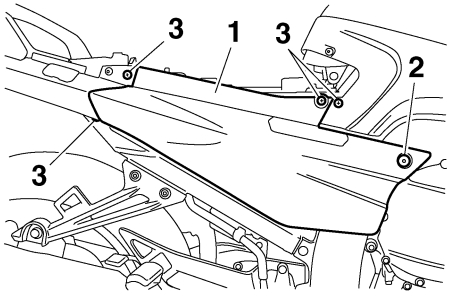
2. Install the seat.

EAU41120

**Panel C**

To remove the panel

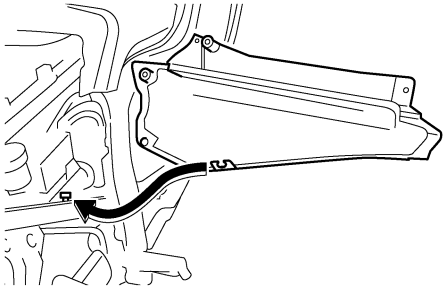
1. Remove the seat. (See page 3-19.)
2. Remove the bolt and the quick fastener screws, and then take the panel off.




1. Panel C
2. Bolt
3. Quick fastener screw

To install the panel

1. Place the panel in the original position, and then install the bolt and the quick fastener screws.



2. Install the seat.

6

EAU19642

## Checking the spark plugs

The spark plugs are important engine components, which should be checked periodically, preferably by a Yamaha dealer. Since heat and deposits will cause any spark plug to slowly erode, they should be removed and checked in accordance with the periodic maintenance and lubrication chart. In addition, the condition of the spark plugs can reveal the condition of the engine.

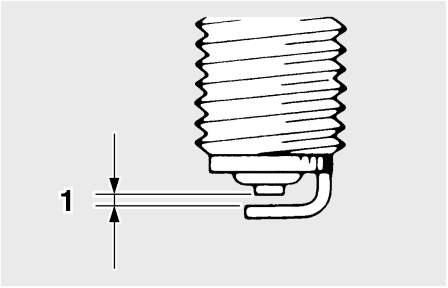
The porcelain insulator around the center electrode of each spark plug should be a medium-to-light tan (the ideal color when the vehicle is ridden normally), and all spark plugs installed in the engine should have the same color. If any spark plug shows a distinctly different color, the engine could be operating improperly. Do not attempt to diagnose such problems yourself. Instead, have a Yamaha dealer check the vehicle.

If a spark plug shows signs of electrode erosion and excessive carbon or other deposits, it should be replaced.



**Specified spark plug:**
NGK/CR8E
DENSO/U24ESR-N

Before installing a spark plug, the spark plug gap should be measured with a wire thickness gauge and, if necessary, adjusted to specification.




1. Spark plug gap

**Spark plug gap:**
0.7–0.8 mm (0.028–0.031 in)

Clean the surface of the spark plug gasket and its mating surface, and then wipe off any grime from the spark plug threads.

**Tightening torque:**
Spark plug:
12.5 Nm (1.25 m·kgf, 9.0 ft·lbf)

**NOTE:**

If a torque wrench is not available when installing a spark plug, a good estimate of the correct torque is 1/4–1/2 turn past finger tight. However, the spark plug should be tightened to the specified torque as soon as possible.

EAU19881

## Engine oil and oil filter cartridge

The engine oil level should be checked before each ride. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

**To check the engine oil level**

1. Place the vehicle on the centerstand.

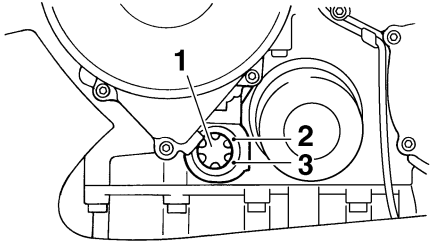
**NOTE:**

Make sure that the vehicle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

2. Start the engine, warm it up for several minutes, and then turn it off.
3. Wait a few minutes until the oil settles, and then check the oil level through the check window located at the bottom-left side of the crankcase.

**NOTE:**

The engine oil should be between the minimum and maximum level marks.

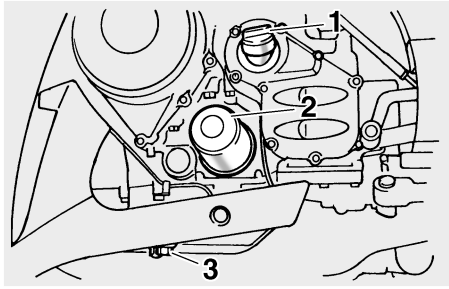



1. Engine oil level check window
2. Maximum level mark
3. Minimum level mark

4. If the engine oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the correct level.

**To change the engine oil (with or without oil filter cartridge replacement)**

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the engine to collect the used oil.
3. Remove the engine oil filler cap and drain bolt to drain the oil from the crankcase.

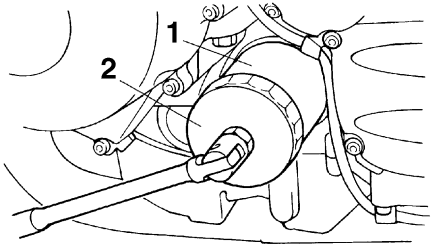



1. Engine oil filler cap
2. Oil filter cartridge
3. Engine oil drain bolt

**NOTE:**

Skip steps 4–6 if the oil filter cartridge is not being replaced.

4. Remove the oil filter cartridge with an oil filter wrench.

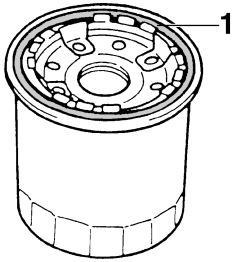



1. Oil filter cartridge
2. Oil filter wrench

**NOTE:**

An oil filter wrench is available at a Yamaha dealer.

5. Apply a thin coat of engine oil to the O-ring of the new oil filter cartridge.

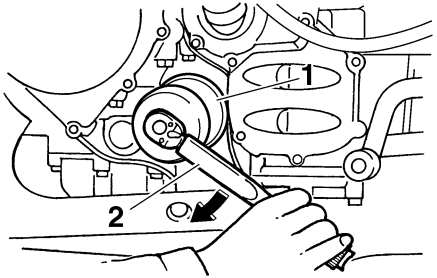



1. O-ring

**NOTE:**

Make sure that the O-ring is properly seated.

6. Install the new oil filter cartridge, and then tighten it to the specified torque with a torque wrench.




1. Oil filter cartridge
2. Torque wrench

**Tightening torque:**
Oil filter cartridge:
17 Nm (1.7 m·kgf, 12 ft·lbf)

7. Install the engine oil drain bolt, and then tighten it to the specified torque.

**NOTE:**

Check the washer for damage and replace it if necessary.

**Tightening torque:**
Engine oil drain bolt:
43 Nm (4.3 m·kgf, 31 ft·lbf)

8. Add the specified amount of the recommended engine oil, and then install and tighten the oil filler cap.

**Recommended engine oil:**
See page 8-1.
**Oil quantity:**
Without oil filter cartridge replacement:
3.80 L (4.02 US qt) (3.34 Imp.qt)
With oil filter cartridge replacement:
4.00 L (4.23 US qt) (3.52 Imp.qt)

ECA11620

**CAUTION:**

- **In order to prevent clutch slippage (since the engine oil also lubricates the clutch), do not mix any chemical additives. Do not use oils with a diesel specification of "CD" or oils of a higher quality than specified. In addition, do not use oils labeled "ENERGY CONSERVING II" or higher.**
- **Make sure that no foreign material enters the crankcase.**

9. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and check for the cause.

**NOTE:**

After the engine is started, the engine oil level warning light should go off if the oil level is sufficient.

ECA10400

**CAUTION:**

**If the oil level warning light flickers or remains on, immediately turn the engine off and have a Yamaha dealer check the vehicle.**

10. Turn the engine off, and then check the oil level and correct it if necessary.

EAU20011

## Final gear oil

The final gear case must be checked for oil leakage before each ride. If any leakage is found, have a Yamaha dealer check and repair the vehicle. In addition, the final gear oil must be changed as follows at the intervals specified in the periodic maintenance and lubrication chart.

EWA10370

**⚠ WARNING**

- **Make sure that no foreign material enters the final gear case.**
- **Make sure that no oil gets on the tire or wheel.**

**To check the final gear oil level**

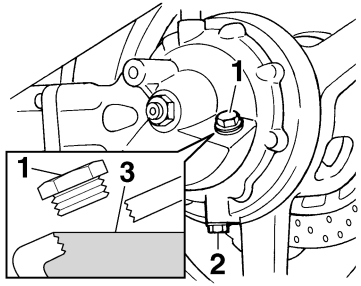
1. Place the vehicle on the centerstand.

**NOTE:**

- The final gear oil level must be checked on a cold engine.
- Make sure that the vehicle is positioned straight up when checking the oil level. A slight tilt to the side can result in a false reading.

2. Remove the oil filler bolt, and then check the oil level in the final gear case.

**NOTE:**
The oil level should be at the brim of the filler hole.




1. Final gear oil filler bolt
2. Final gear oil drain bolt
3. Correct oil level

3. If the oil is below the brim of the filler hole, add sufficient oil of the recommended type to raise it to the correct level.
4. Install the oil filler bolt, and then tighten it to the specified torque.

**Tightening torque:**
Final gear oil filler bolt:
23 Nm (2.3 m·kgf, 17 ft·lbf)

**To change the final gear oil**

1. Place an oil pan under the final gear case to collect the used oil.
2. Remove the oil filler bolt and drain bolt to drain the oil from the final gear case.
3. Install the final gear oil drain bolt, and then tighten it to the specified torque.

**Tightening torque:**
Final gear oil drain bolt:
23 Nm (2.3 m·kgf, 17 ft·lbf)

4. Add the recommended final gear oil to the brim of the filler hole.

**Recommended final gear oil:**
Shaft drive gear oil (Part No.: 9079E-SH001-00)
**Oil quantity:**
0.20 L (0.21 US qt) (0.18 Imp.qt)

5. Install the oil filler bolt, and then tighten it to the specified torque.

**Tightening torque:**
Final gear oil filler bolt:
23 Nm (2.3 m·kgf, 17 ft·lbf)

6. Check the final gear case for oil leakage. If oil is leaking, check for the cause.

EAU20070

## Coolant

The coolant level should be checked before each ride. In addition, the coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart.

EAU39510

### To check the coolant level

The coolant level should be checked as follows before each ride. In addition, the coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart.

1. Place the vehicle on the centerstand.

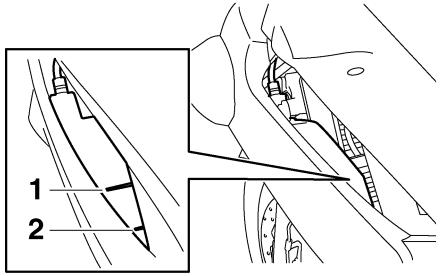
**NOTE:**

- The coolant level must be checked on a cold engine since the level varies with engine temperature.
- Make sure that the vehicle is positioned straight up when checking the coolant level. A slight tilt to the side can result in a false reading.

2. Check the coolant level in the coolant reservoir.

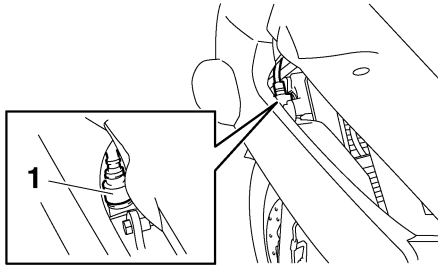
**NOTE:**

The coolant should be between the minimum and maximum level marks.




1. Maximum level mark
2. Minimum level mark

3. If the coolant is at or below the minimum level mark, remove the reservoir cap.




1. Coolant reservoir cap

4. Add coolant or distilled water to raise the coolant to the maximum level mark, install the coolant reservoir cap.

**Coolant reservoir capacity (up to the maximum level mark):**
0.25 L (0.26 US qt) (0.22 Imp.qt)

ECA10470

**CAUTION:**

- **If coolant is not available, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine.**
- **If water has been used instead of coolant, replace it with coolant as soon as possible, other-**

**wise the engine may not be sufficiently cooled and the cooling system will not be protected against frost and corrosion.**
- **If water has been added to the coolant, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible, otherwise the effectiveness of the coolant will be reduced.**

EWA10380

**⚠ WARNING**

**Never attempt to remove the radiator cap when the engine is hot.**



**NOTE:**
- The radiator fans are automatically switched on or off according to the coolant temperature in the radiator.
- If the engine overheats, see page 6-32 for further instructions.

EAU33030

### Changing the coolant

EWA10380

**⚠ WARNING**

**Never attempt to remove the radiator cap when the engine is hot.**

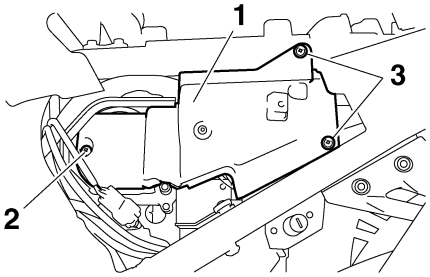
The coolant must be changed at the intervals specified in the periodic maintenance and lubrication chart. Have a Yamaha dealer change the coolant.

EAU20471

### Cleaning the air filter element

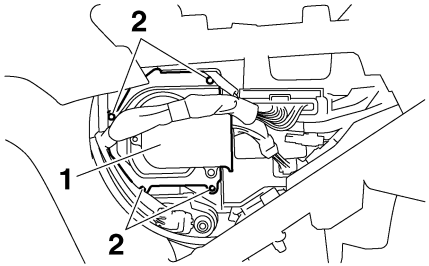
The air filter element should be cleaned at the intervals specified in the periodic maintenance and lubrication chart. Clean the air filter element more frequently if you are riding in unusually wet or dusty areas.

1. Remove panel B. (See page 6-5.)
2. Remove the intake air shroud by removing the screw and the quick fastener screws.



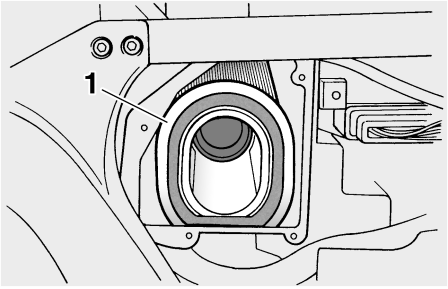

1. Intake air shroud
2. Screw
3. Quick fastener screw

3. Remove the air filter case cover by removing the screws.



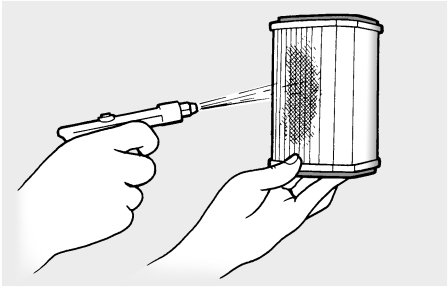

1. Air filter case cover
2. Screw

4. Pull the air filter element out.




1. Air filter element

5. Lightly tap the air filter element to remove most of the dust and dirt, and then blow the remaining dirt out with compressed air as shown. If the air filter element is damaged, replace it.



6. Insert the air filter element into the air filter case.

ECA10480

**CAUTION:**

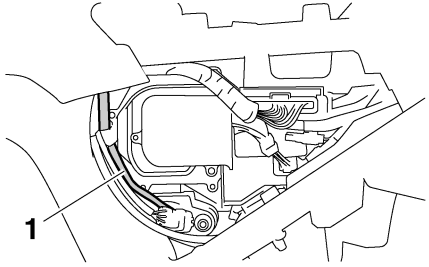
- **Make sure that the air filter element is properly seated in the air filter case.**
- **The engine should never be operated without the air filter element installed, otherwise the piston(s) and/or cylinder(s) may become excessively worn.**

7. Install the air filter case cover by installing the screws.

ECA15410

**CAUTION:**

**Make sure that the fuel tank breather/overflow hose is not pinched.**




1. Fuel tank breather/overflow hose

8. Install the intake air shroud by installing the screw and the quick fastener screws.
9. Install the panel.

EAU21310

## Checking the engine idling speed

The engine idling speed must be checked as follows and, if necessary, adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

Start the engine and warm it up for several minutes at 1000–2000 r/min while occasionally revving it to 4000–5000 r/min.

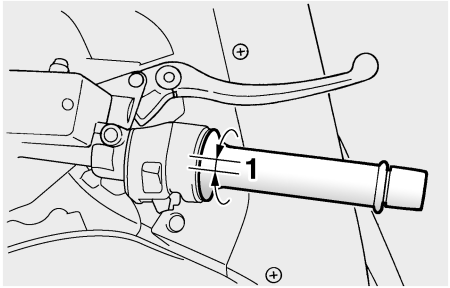
**NOTE:**

The engine is warm when it quickly responds to the throttle.

**Engine idling speed:**
1000–1100 r/min

EAU21381

## Checking the throttle cable free play




1. Throttle cable free play

The throttle cable free play should measure 3.0–5.0 mm (0.12–0.20 in) at the throttle grip. Periodically check the throttle cable free play and, if necessary, have a Yamaha dealer adjust it.

EAU21401

## Valve clearance

The valve clearance changes with use, resulting in improper air-fuel mixture and/or engine noise. To prevent this from occurring, the valve clearance must be adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance and lubrication chart.

EAU21500

## Tires

To maximize the performance, durability, and safe operation of your motorcycle, note the following points regarding the specified tires.

### Tire air pressure

The tire air pressure should be checked and, if necessary, adjusted before each ride.

EWA10440

**⚠ WARNING**

- **The tire air pressure must be checked and adjusted on cold tires (i.e., when the temperature of the tires equals the ambient temperature).**
- **The tire air pressure must be adjusted in accordance with the riding speed and with the total weight of rider, cargo, and accessories approved for this model.**

**Tire air pressure (measured on cold tires):**
**0–90 kg (0–198 lb):**
Front:
270 kPa (39 psi) (2.70 kgf/cm²)
Rear:
290 kPa (42 psi) (2.90 kgf/cm²)
**90–215 kg (198–474 lb):**
Front:
270 kPa (39 psi) (2.70 kgf/cm²)
Rear:
290 kPa (42 psi) (2.90 kgf/cm²)
**High-speed riding:**
Front:
270 kPa (39 psi) (2.70 kgf/cm²)
Rear:
290 kPa (42 psi) (2.90 kgf/cm²)
**Maximum load*:**
215 kg (474 lb)
* Total weight of rider, cargo and accessories

EWA10450

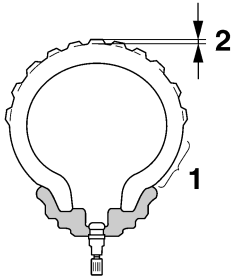
**⚠ WARNING**

**Because loading has an enormous impact on the handling, braking, performance and safety characteristics of your vehicle, you should keep the following precautions in mind.**

- **NEVER OVERLOAD THE VEHICLE! Operation of an overloaded vehicle may result in tire damage, loss of control, or severe injury. Make sure that the total weight of rider, cargo, and accessories does not exceed the specified maximum load for the vehicle.**
- **Do not carry along loosely packed items, which can shift during a ride.**
- **Securely pack the heaviest items close to the center of the vehicle and distribute the weight evenly on both sides.**
- **Adjust the suspension and tire air pressure with regard to the load.**
- **Check the tire condition and air pressure before each ride.**

6

### Tire inspection




1. Tire sidewall
2. Tire tread depth

The tires must be checked before each ride. If the center tread depth reaches the specified limit, if the tire has a nail or glass fragments in it, or if the sidewall is cracked, have a Yamaha dealer replace the tire immediately.

**Minimum tire tread depth (front and rear):**
1.6 mm (0.06 in)

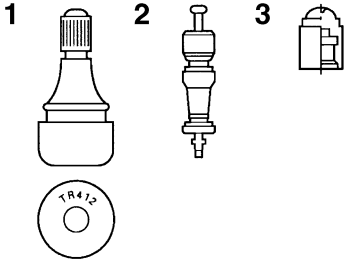
**NOTE:**
The tire tread depth limits may differ from country to country. Always comply with the local regulations.

EWA10470

**WARNING**

- **Have a Yamaha dealer replace excessively worn tires. Besides being illegal, operating the vehicle with excessively worn tires decreases riding stability and can lead to loss of control.**
- **The replacement of all wheel and brake related parts, including the tires, should be left to a Yamaha dealer, who has the necessary professional knowledge and experience.**

### Tire information




1. Tire air valve
2. Tire air valve core
3. Tire air valve cap with seal

This motorcycle is equipped with cast wheels and tubeless tires with valves.

EWA10480

**WARNING**

- **The front and rear tires should be of the same make and design, otherwise the handling characteristics of the motorcycle cannot be guaranteed.**
- **After extensive tests, only the tires listed below have been approved for this model by Yamaha Motor Co., Ltd.**
- **Always make sure that the valve caps are securely installed to prevent air pressure leakage.**
- **Use only the tire valves and valve cores listed below to avoid tire deflation during a high-speed ride.**

**Front tire:**
Size:
120/70 ZR17M/C (58W)
Manufacturer/model:
METZELER/Roadtec Z6G
BRIDGESTONE/BT020F
**Rear tire:**
Size:
180/55 ZR17M/C (73W)
Manufacturer/model:
METZELER/Roadtec Z6C
BRIDGESTONE/BT020R
**FRONT and REAR:**
Tire air valve:
TR412
Valve core:
#9100 (original)

EWA10600

**⚠ WARNING**

**This motorcycle is fitted with super-high-speed tires. Note the following points in order to make the most efficient use of these tires.**

- **Use only the specified replacement tires. Other tires may run the danger of bursting at super high speeds.**
- **Brand-new tires can have a relatively poor grip on certain road surfaces until they have been "broken in". Therefore, it is advisable before doing any high-speed riding to ride conservatively for approximately 100 km (60 mi) after installing a new tire.**
- **The tires must be warmed up before a high-speed run.**
- **Always adjust the tire air pressure according to the operating conditions.**

EAU21960

## Cast wheels

To maximize the performance, durability, and safe operation of your vehicle, note the following points regarding the specified wheels.

- The wheel rims should be checked for cracks, bends or warpage before each ride. If any damage is found, have a Yamaha dealer replace the wheel. Do not attempt even the smallest repair to the wheel. A deformed or cracked wheel must be replaced.
- The wheel should be balanced whenever either the tire or wheel has been changed or replaced. An unbalanced wheel can result in poor performance, adverse handling characteristics, and a shortened tire life.
- Ride at moderate speeds after changing a tire since the tire surface must first be "broken in" for it to develop its optimal characteristics.

EAU22072

## Clutch lever

Since this model is equipped with a hydraulic clutch, adjusting the clutch lever free play is not needed. However, it is necessary to check the clutch fluid level and check the hydraulic system for leakage before each ride. If the clutch lever free play does become excessive, and shifting becomes rough or clutch slippage occurs, causing poor acceleration, there may be air in the clutch system. If there is air in the hydraulic system, have a Yamaha dealer bleed the system before operating the motorcycle.



EAU36500

## Adjusting the rear brake light switch

The rear brake light switch, which is activated by the brake pedal, is properly adjusted when the brake light comes on just before braking takes effect. If necessary, have a Yamaha dealer adjust the brake light switch.

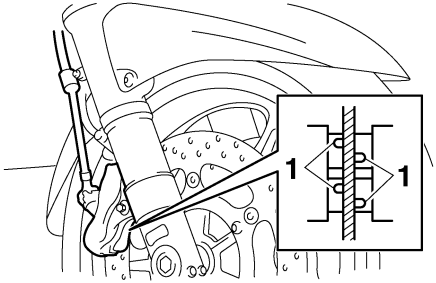
EAU22390

## Checking the front and rear brake pads

The front and rear brake pads must be checked for wear at the intervals specified in the periodic maintenance and lubrication chart.

EAU22420

### Front brake pads



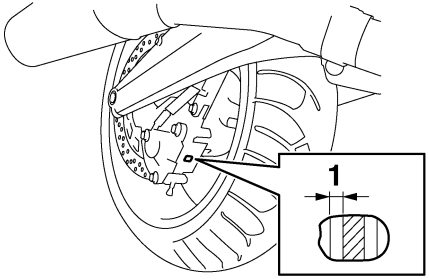

1. Brake pad wear indicator groove

Each front brake pad is provided with a wear indicator groove, which allows you to check the brake pad wear without having to disassemble the brake. To check the brake pad wear, check the wear indicator groove. If a brake pad has worn to the point that the wear

indicator groove has almost disappeared, have a Yamaha dealer replace the brake pads as a set.

EAU22500

### Rear brake pads



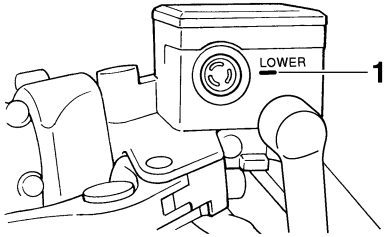

1. Lining thickness

Check each rear brake pad for damage and measure the lining thickness. If a brake pad is damaged or if the lining thickness is less than 0.8 mm (0.03 in), have a Yamaha dealer replace the brake pads as a set.

EAU22680

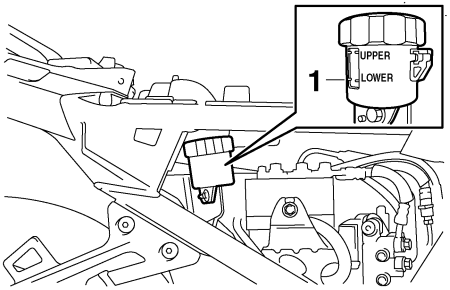
## Checking the brake and clutch fluid levels

### Front brake



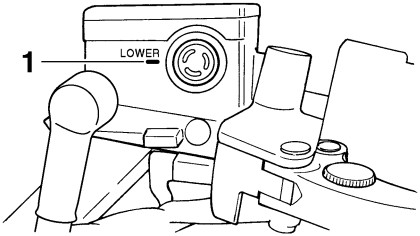

1. Minimum level mark

### Rear brake




1. Minimum level mark

### Clutch




1. Minimum level mark

Insufficient brake fluid may allow air to enter the brake or clutch systems, possibly causing them to become ineffective.

Before riding, check that the brake fluid is above the minimum level mark and replenish if necessary. A low brake fluid level may indicate worn brake pads and/or brake system leakage. If the brake level is low, be sure to check the brake pads for wear and the brake system for leakage.

**NOTE:**

The rear brake fluid reservoir is located behind panel C. (See page 6-5.)

Observe these precautions:

- When checking the fluid level, make sure that the top of the brake or clutch fluid reservoir is level.
- Use only the recommended quality brake fluid, otherwise the rubber seals may deteriorate, causing leakage and poor braking or clutch performance.

**Recommended brake and clutch fluid:**
DOT 4 brake fluid

- Refill with the same type of brake fluid. Mixing fluids may result in a harmful chemical reaction and lead to poor braking or clutch performance.
- The brake or clutch fluid reservoir diaphragm will lose its shape from the negative pressure if the fluid level goes down too far. Be sure to return the diaphragm to its original shape before installing it into the brake or clutch fluid reservoir.
- Be careful that water does not enter the brake or clutch fluid reservoir when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
- Brake fluid may deteriorate painted surfaces or plastic parts. Always clean up spilled fluid immediately.
- As the brake pads wear, it is normal for the brake fluid level to gradually go down. However, if the brake fluid level goes down suddenly, have a Yamaha dealer check the cause.

EAU22750

## Changing the brake and clutch fluids

Have a Yamaha dealer change the brake and clutch fluids at the intervals specified in the NOTE after the periodic maintenance and lubrication chart. In addition, have the oil seals of the brake and clutch master cylinders and calipers as well as the brake and clutch hoses replaced at the intervals listed below or whenever they are damaged or leaking.

- Oil seals: Replace every two years.
- Brake and clutch hoses: Replace every four years.

EAU23100

## Checking and lubricating the cables

The operation of all control cables and the condition of the cables should be checked before each ride, and the cables and cable ends should be lubricated if necessary. If a cable is damaged or does not move smoothly, have a Yamaha dealer check or replace it.

**Recommended lubricant:**
Engine oil

EWA10720

**⚠ WARNING**

**Damage to the outer sheath may interfere with proper cable operation and will cause the inner cable to rust. Replace a damaged cable as soon as possible to prevent unsafe conditions.**

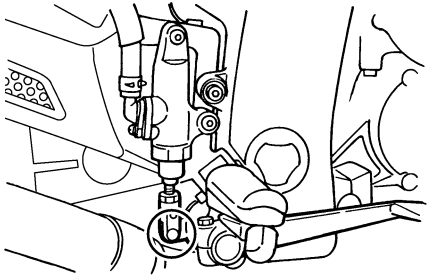
EAU23111

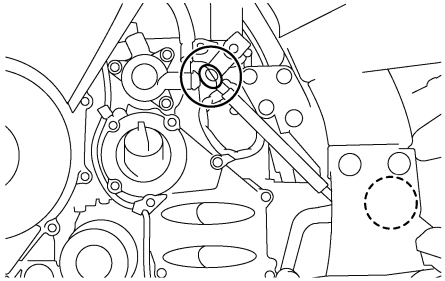
## Checking and lubricating the throttle grip and cable

The operation of the throttle grip should be checked before each ride. In addition, the cable should be lubricated at the intervals specified in the periodic maintenance chart.

EAU23131

## Checking and lubricating the brake and shift pedals





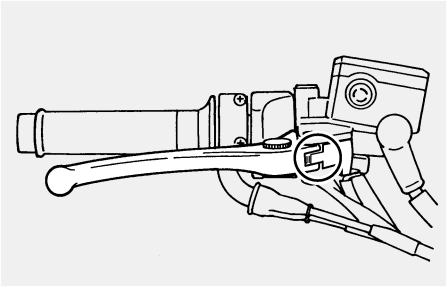
The operation of the brake and shift pedals should be checked before each ride, and the pedal pivots should be lubricated if necessary.

**Recommended lubricant:**
Lithium-soap-based grease (all-purpose grease)

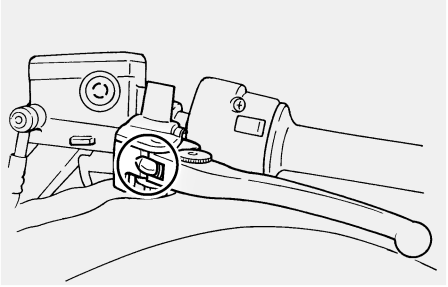
EAU23140

## Checking and lubricating the brake and clutch levers

**Brake lever**



**Clutch lever**

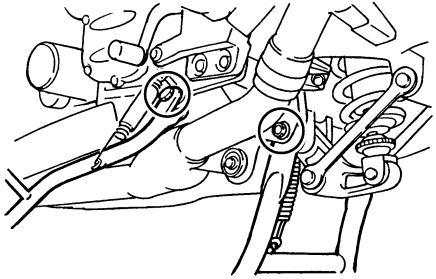


The operation of the brake and clutch levers should be checked before each ride, and the lever pivots should be lubricated if necessary.

**Recommended lubricant:**
Lithium-soap-based grease (all-purpose grease)

EAU23211

## Checking and lubricating the centerstand and sidestand



The operation of the centerstand and sidestand should be checked before each ride, and the pivots and metal-to-metal contact surfaces should be lubricated if necessary.

EWA10740

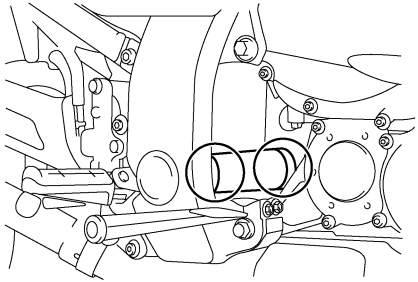
**⚠ WARNING**

**If the centerstand or sidestand does not move up and down smoothly, have a Yamaha dealer check or repair it.**

**Recommended lubricant:**
Lithium-soap-based grease (all-purpose grease)

EAUM1650

## Lubricating the swingarm pivots

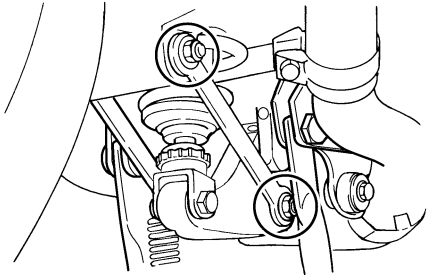


The swingarm pivots must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

**Recommended lubricant:**
Lithium-soap-based grease

EAU23250

## Lubricating the rear suspension



The pivoting points of the rear suspension must be lubricated at the intervals specified in the periodic maintenance and lubrication chart.

**Recommended lubricant:**
Lithium-soap-based grease

6

EAU23271

## Checking the front fork

The condition and operation of the front fork must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

### To check the condition

EWA10750

**⚠ WARNING**

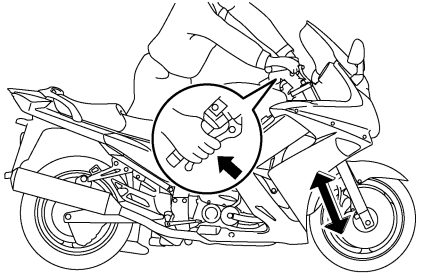
**Securely support the vehicle so that there is no danger of it falling over.**

Check the inner tubes for scratches, damage and excessive oil leakage.



### To check the operation

1. Place the vehicle on a level surface and hold it in an upright position.
2. While applying the front brake, push down hard on the handlebars several times to check if the front fork compresses and rebounds smoothly.



ECA10590

**CAUTION:**

**If any damage is found or the front fork does not operate smoothly, have a Yamaha dealer check or repair it.**

EAU23280

## Checking the steering

Worn or loose steering bearings may cause danger. Therefore, the operation of the steering must be checked as follows at the intervals specified in the periodic maintenance and lubrication chart.

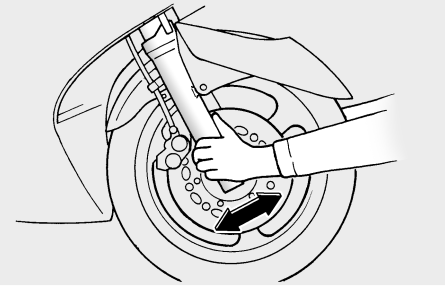
1. Place a stand under the engine to raise the front wheel off the ground.

EWA10750

**⚠ WARNING**

**Securely support the vehicle so that there is no danger of it falling over.**

2. Hold the lower ends of the front fork legs and try to move them forward and backward. If any free play can be felt, have a Yamaha dealer check or repair the steering.



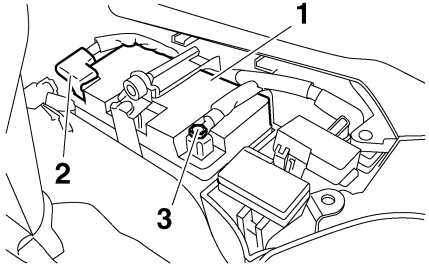
EAU23290

## Checking the wheel bearings

The front and rear wheel bearings must be checked at the intervals specified in the periodic maintenance and lubrication chart. If there is play in the wheel hub or if the wheel does not turn smoothly, have a Yamaha dealer check the wheel bearings.

EAU39520

## Battery




1. Battery
2. Positive battery terminal
3. Negative battery terminal

The battery is located under panel A. (See page 6-5.)
This vehicle is equipped with a sealed-type (MF) battery, which does not require any maintenance. There is no need to check the electrolyte or to add distilled water.

### To charge the battery

Have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the

battery tends to discharge more quickly if the vehicle is equipped with optional electrical accessories.

EWA10760

**⚠ WARNING**

- **Electrolyte is poisonous and dangerous since it contains sulfuric acid, which causes severe burns. Avoid any contact with skin, eyes or clothing and always shield your eyes when working near batteries. In case of contact, administer the following FIRST AID.**
  - **EXTERNAL: Flush with plenty of water.**
  - **INTERNAL: Drink large quantities of water or milk and immediately call a physician.**
  - **EYES: Flush with water for 15 minutes and seek prompt medical attention.**
- **Batteries produce explosive hydrogen gas. Therefore, keep sparks, flames, cigarettes, etc., away from the battery and provide sufficient ventilation when charging it in an enclosed space.**
- **KEEP THIS AND ALL BATTERIES OUT OF THE REACH OF CHILDREN.**

**To store the battery**

1. If the vehicle will not be used for more than one month, remove the battery, fully charge it, and then place it in a cool, dry place.
2. If the battery will be stored for more than two months, check it at least once a month and fully charge it if necessary.
3. Fully charge the battery before installation.
4. After installation, make sure that the battery leads are properly connected to the battery terminals.

ECA10630

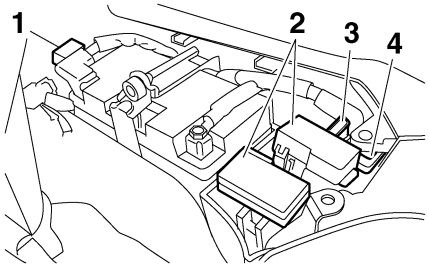
**CAUTION:**

- **Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.**
- **To charge a sealed-type (MF) battery, a special (constant-voltage) battery charger is required. Using a conventional battery charger will damage the battery. If you do not have access to a sealed-type (MF) battery charger, have a Yamaha dealer charge your battery.**

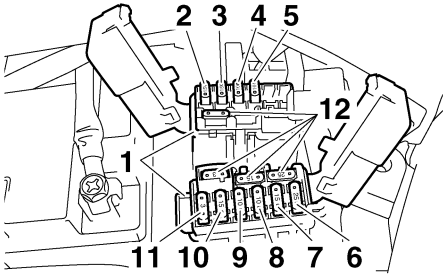
EAU23657

## Replacing the fuses

The main fuse, the fuse boxes and the ABS motor fuse are located under panel A. (See page 6-5.)




1. Main fuse
2. Fuse box
3. ABS motor fuse
4. ABS motor spare fuse




1. Fuse box
2. Right radiator fan fuse
3. Left radiator fan fuse
4. Hazard fuse
5. Backup fuse (for odometer, clock and immobilizer system)
6. Headlight fuse
7. Signaling system fuse
8. ABS control unit fuse
9. Ignition fuse
10. Fuel injection system fuse
11. Auxiliary DC jack fuse
12. Spare fuse

If a fuse is blown, replace it as follows.

1. Turn the key to “OFF” and turn off the electrical circuit in question.
2. Remove the blown fuse, and then install a new fuse of the specified amperage.

**Specified fuses:**
- Main fuse: 50.0 A
- Headlight fuse: 25.0 A
- Signaling system fuse: 15.0 A
- Ignition fuse: 10.0 A
- Radiator fan fuse: 15.0 A × 2
- Backup fuse: 10.0 A
- Hazard fuse: 10.0 A
- Fuel injection system fuse: 15.0 A
- ABS control unit fuse: 10.0 A
- Auxiliary DC jack fuse: 3.0 A
- ABS motor fuse: 30.0 A

ECA10640

**CAUTION:**

**Do not use a fuse of a higher amperage rating than recommended to avoid causing extensive damage to the electrical system and possibly a fire.**

6

3. Turn the key to “ON” and turn on the electrical circuit in question to check if the device operates.
4. If the fuse immediately blows again, have a Yamaha dealer check the electrical system.

EAU40360

## Headlight bulb

If a headlight does not come on, have a Yamaha dealer check its electrical circuit or replace the bulb.

EAU39880

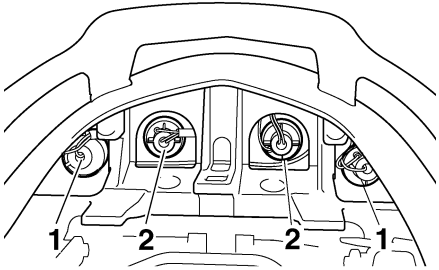
## Front turn signal light

If a front turn signal light does not come on, have a Yamaha dealer check its electrical circuit or replace the bulb.

EAU40990

## Replacing a rear turn signal light bulb or a tail/brake light bulb

1. Remove the socket (together with the defective bulb) by turning it counterclockwise.



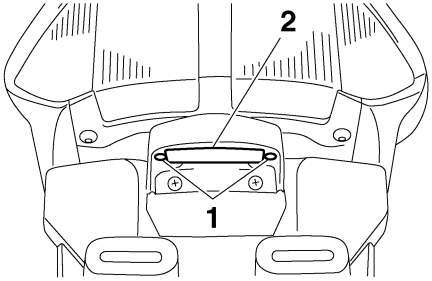

1. Turn signal light bulb socket
2. Tail/brake light bulb socket

2. Remove the defective bulb by pushing it in and turning it counterclockwise.
3. Insert a new bulb into the socket, push it in, and then turn it clockwise until it stops.
4. Install the socket (together with the bulb) by turning it clockwise.

EAU24310

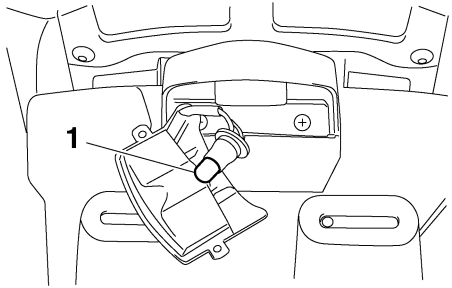
## Replacing the license plate light bulb

1. Remove the license plate light unit by removing the screws.




1. Screw
2. License plate light unit

2. Remove the socket (together with the bulb) by pulling it out.




1. License plate light bulb

3. Remove the defective bulb by pulling it out.
4. Insert a new bulb into the socket.
5. Install the socket (together with the bulb) by pushing it in.
6. Install the license plate light unit by installing the screws.

EAU39020

## Auxiliary light bulb

If the auxiliary light does not come on, have a Yamaha dealer check the electrical circuit or replace the bulb.

EAU25870

## Troubleshooting

Although Yamaha motorcycles receive a thorough inspection before shipment from the factory, trouble may occur during operation. Any problem in the fuel, compression, or ignition systems, for example, can cause poor starting and loss of power.

The following troubleshooting charts represent quick and easy procedures for checking these vital systems yourself. However, should your motorcycle require any repair, take it to a Yamaha dealer, whose skilled technicians have the necessary tools, experience, and know-how to service the motorcycle properly.

Use only genuine Yamaha replacement parts. Imitation parts may look like Yamaha parts, but they are often inferior, have a shorter service life and can lead to expensive repair bills.

EAU25911

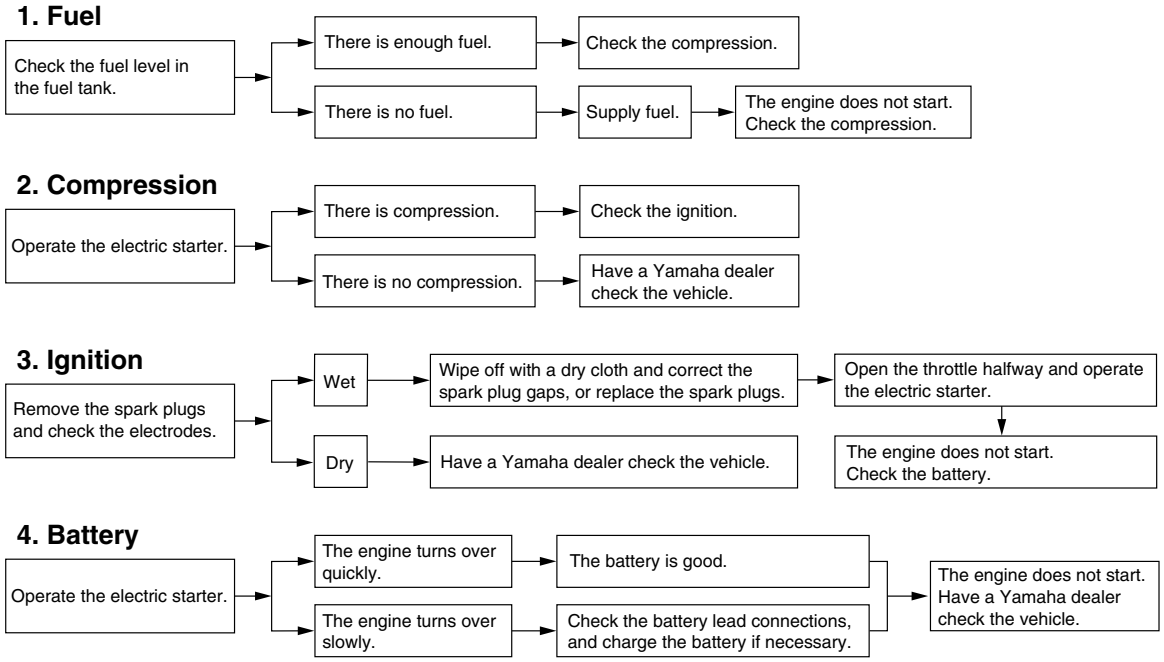
## Troubleshooting charts

### Starting problems or poor engine performance

EWA10840

**WARNING**

**Keep away open flames and do not smoke while checking or working on the fuel system.**



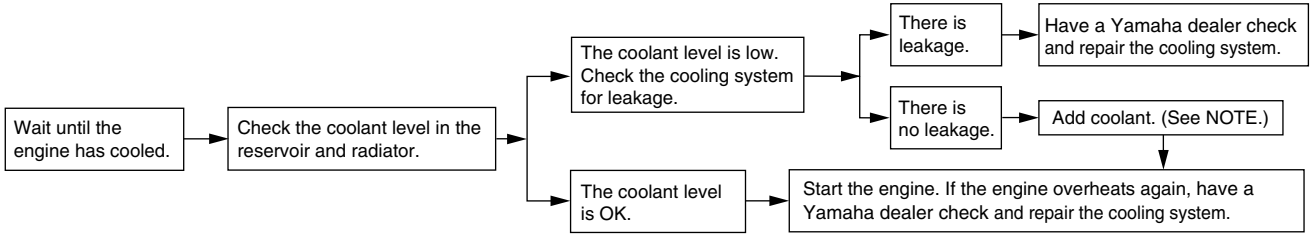
### Engine overheating

EWA10400

**⚠ WARNING**

- **Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. Be sure to wait until the engine has cooled.**
- **After removing the radiator cap retaining bolt, place a thick rag, like a towel, over the radiator cap, and then slowly rotate the cap counterclockwise to the detent to allow any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning it counterclockwise, and then remove the cap.**






**NOTE:**

If coolant is not available, tap water can be temporarily used instead, provided that it is changed to the recommended coolant as soon as possible.

EAU26060

## Care

While the open design of a motorcycle reveals the attractiveness of the technology, it also makes it more vulnerable. Rust and corrosion can develop even if high-quality components are used. A rusty exhaust pipe may go unnoticed on a car, however, it detracts from the overall appearance of a motorcycle. Frequent and proper care does not only comply with the terms of the warranty, but it will also keep your motorcycle looking good, extend its life and optimize its performance.

### Before cleaning

1. Cover the muffler outlets with plastic bags after the engine has cooled down.
2. Make sure that all caps and covers as well as all electrical couplers and connectors, including the spark plug caps, are tightly installed.
3. Remove extremely stubborn dirt, like oil burnt onto the crankcase, with a degreasing agent and a brush, but never apply such products onto seals, gaskets and wheel axles. Always rinse the dirt and degreaser off with water.

### Cleaning

ECA10770

**CAUTION:**

- **Avoid using strong acidic wheel cleaners, especially on spoked wheels. If such products are used on hard-to-remove dirt, do not leave the cleaner on the affected area any longer than instructed. Also, thoroughly rinse the area off with water, immediately dry it, and then apply a corrosion protection spray.**
- **Improper cleaning can damage windshields, cowlings, panels and other plastic parts. Use only a soft, clean cloth or sponge with mild detergent and water to clean plastic.**
- **Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.**
- **Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of wheel and swingarm bearings, fork and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.**
- **For motorcycles equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.**

After normal use

Remove dirt with warm water, a mild detergent, and a soft, clean sponge, and then rinse thoroughly with clean water. Use a toothbrush or bottlebrush for hard-to-reach areas. Stubborn dirt and insects will come off more easily if the area is covered with a wet cloth for a few minutes before cleaning.

After riding in the rain, near the sea or on salt-sprayed roads

Since sea salt or salt sprayed on roads during winter are extremely corrosive in combination with water, carry out the following steps after each ride in the rain, near the sea or on salt-sprayed roads.



**NOTE:**

Salt sprayed on roads in the winter may remain well into spring.

1. Clean the motorcycle with cold water and a mild detergent, after the engine has cooled down.

ECA10790

**CAUTION:**

**Do not use warm water since it increases the corrosive action of the salt.**

2. After drying the motorcycle, apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces to prevent corrosion.

**After cleaning**

1. Dry the motorcycle with a chamois or an absorbing cloth.
2. Use a chrome polish to shine chrome, aluminum and stainless-steel parts, including the exhaust system. (Even the thermally induced discoloring of stainless-steel exhaust systems can be removed through polishing.)
3. To prevent corrosion, it is recommended to apply a corrosion protection spray on all metal, including chrome- and nickel-plated, surfaces.
4. Use spray oil as a universal cleaner to remove any remaining dirt.
5. Touch up minor paint damage caused by stones, etc.
6. Wax all painted surfaces.
7. Let the motorcycle dry completely before storing or covering it.

EWA11130

**⚠ WARNING**

- **Make sure that there is no oil or wax on the brakes or tires.**
- **If necessary, clean the brake discs and brake linings with a regular brake disc cleaner or acetone, and wash the tires with warm water and a mild detergent. Before riding at higher speeds, test the motorcycle's braking performance and cornering behavior.**

ECA10800

**CAUTION:**

- **Apply spray oil and wax sparingly and make sure to wipe off any excess.**
- **Never apply oil or wax to any rubber and plastic parts, but treat them with a suitable care product.**

- **Avoid using abrasive polishing compounds as they will wear away the paint.**

**NOTE:**
Consult a Yamaha dealer for advice on what products to use.

EAU26241

## Storage

### Short-term

Always store your motorcycle in a cool, dry place and, if necessary, protect it against dust with a porous cover.

ECA10810

**CAUTION:**

- **Storing the motorcycle in a poorly ventilated room or covering it with a tarp, while it is still wet, will allow water and humidity to seep in and cause rust.**
- **To prevent corrosion, avoid damp cellars, stables (because of the presence of ammonia) and areas where strong chemicals are stored.**

### Long-term

Before storing your motorcycle for several months:

1. Follow all the instructions in the "Care" section of this chapter.
2. Fill up the fuel tank and add fuel stabilizer (if available) to prevent the fuel tank from rusting and the fuel from deteriorating.
3. Perform the following steps to protect the cylinders, piston rings, etc. from corrosion.
   a. Remove the spark plug caps and spark plugs.
   b. Pour a teaspoonful of engine oil into each spark plug bore.
   c. Install the spark plug caps onto the spark plugs, and then place the spark plugs on the cylinder head so that the electrodes are grounded. (This will limit sparking during the next step.)
   d. Turn the engine over several times with the starter. (This will coat the cylinder walls with oil.)
   e. Remove the spark plug caps from the spark plugs, and then install the spark plugs and the spark plug caps.

EWA10950

**⚠ WARNING**

**To prevent damage or injury from sparking, make sure to ground the spark plug electrodes while turning the engine over.**

7

4. Lubricate all control cables and the pivoting points of all levers and pedals as well as of the sidestand/centerstand.
5. Check and, if necessary, correct the tire air pressure, and then lift the motorcycle so that both of its wheels are off the ground. Alternatively, turn the wheels a little every month in order to prevent the tires from becoming degraded in one spot.
6. Cover the muffler outlets with plastic bags to prevent moisture from entering them.
7. Remove the battery and fully charge it. Store it in a cool, dry place and charge it once a month. Do not store the battery in an excessively cold or warm place [less than 0 °C (30 °F) or more than 30 °C (90 °F)]. For more information on storing the battery, see page 6-26.



**NOTE:**

Make any necessary repairs before storing the motorcycle.

**Dimensions:**
- Overall length:
  - 2230 mm (87.8 in)
- Overall width:
  - 750 mm (29.5 in)
- Overall height:
  - 1450 mm (57.1 in)
- Seat height:
  - 800 mm (31.5 in)
- Wheelbase:
  - 1545 mm (60.8 in)
- Ground clearance:
  - 130 mm (5.12 in)
- Minimum turning radius:
  - 3100 mm (122.0 in)

**Weight:**
- With oil and fuel:
  - 288.0 kg (635 lb)

**Engine:**
- Engine type:
  - Liquid cooled 4-stroke, DOHC
- Cylinder arrangement:
  - Forward-inclined parallel 4-cylinder
- Displacement:
  - 1298.0 $cm^3$ (79.20 cu.in)
- Bore × stroke:
  - 79.0 × 66.2 mm (3.11 × 2.61 in)
- Compression ratio:
  - 10.80 :1
- Starting system:
  - Electric starter
- Lubrication system:
  - Wet sump

**Engine oil:**
- Type:
  - SAE20W40
- Recommended engine oil grade:
  - API service SE, SF, SG type or higher
- Engine oil quantity:
  - Without oil filter cartridge replacement:
    - 3.80 L (4.02 US qt) (3.34 Imp.qt)
  - With oil filter cartridge replacement:
    - 4.00 L (4.23 US qt) (3.52 Imp.qt)

**Final gear oil:**
- Type:
  - Shaft drive gear oil (Part No.: 9079E-SH001-00)
- Quantity:
  - 0.20 L (0.21 US qt) (0.18 Imp.qt)

**Cooling system:**
- Coolant reservoir capacity (up to the maximum level mark):
  - 0.25 L (0.26 US qt) (0.22 Imp.qt)
- Radiator capacity (including all routes):
  - 2.60 L (2.75 US qt) (2.29 Imp.qt)

**Air filter:**
- Air filter element:
  - Dry element

**Fuel:**
- Recommended fuel:
  - Regular unleaded gasoline only
- Fuel tank capacity:
  - 25.0 L (6.61 US gal) (5.50 Imp.gal)
- Fuel reserve amount:
  - 5.5 L (1.45 US gal) (1.21 Imp.gal)

**Fuel injector:**
- Manufacturer:
  - NIPPON INJECTOR
- Model/quantity:
  - INP-151/4

**Spark plug (s):**
- Manufacturer/model:
  - NGK/CR8E
- Manufacturer/model:
  - DENSO/U24ESR-N
- Spark plug gap:
  - 0.7–0.8 mm (0.028–0.031 in)

**Clutch:**
- Clutch type:
  - Wet, multiple-disc

**Transmission:**
- Primary reduction system:
  - Spur gear
- Primary reduction ratio:
  - 75/48 (1.563)
- Secondary reduction system:
  - Shaft drive
- Secondary reduction ratio:
  - 35/37 × 21/27 × 33/9 (2.698)
- Transmission type:
  - Constant mesh 5-speed
- Operation:
  - Left foot operation
- Gear ratio:
  - 1st:
    - 43/17 (2.529)
  - 2nd:
    - 39/22 (1.773)

3rd:
31/23 (1.348)
4th:
28/26 (1.077)
5th:
26/28 (0.929)

**Chassis:**
Frame type:
Diamond
Caster angle:
26.00 °
Trail:
109.0 mm (4.29 in)

**Front tire:**
Type:
Tubeless
Size:
120/70 ZR17M/C (58W)
Manufacturer/model:
METZELER/Roadtec Z6G
Manufacturer/model:
BRIDGESTONE/BT020F

**Rear tire:**
Type:
Tubeless
Size:
180/55 ZR17M/C (73W)
Manufacturer/model:
METZELER/Roadtec Z6C
Manufacturer/model:
BRIDGESTONE/BT020R

**Loading:**
Maximum load:
215 kg (474 lb)
(Total weight of rider, cargo and accessories)

**Tire air pressure (measured on cold tires):**
Loading condition:
0–90 kg (0–198 lb)
Front:
270 kPa (39 psi) (2.70 kgf/cm²)
Rear:
290 kPa (42 psi) (2.90 kgf/cm²)
Loading condition:
90–215 kg (198–474 lb)
Front:
270 kPa (39 psi) (2.70 kgf/cm²)
Rear:
290 kPa (42 psi) (2.90 kgf/cm²)
High-speed riding:
Front:
270 kPa (39 psi) (2.70 kgf/cm²)
Rear:
290 kPa (42 psi) (2.90 kgf/cm²)

**Front wheel:**
Wheel type:
Cast wheel
Rim size:
17M/C x MT3.50

**Rear wheel:**
Wheel type:
Cast wheel
Rim size:
17M/C x MT5.50

**Front brake:**
Type:
Dual disc brake
Operation:
Right hand operation
Recommended fluid:
DOT 4

**Rear brake:**
Type:
Single disc brake
Operation:
Right foot operation
Recommended fluid:
DOT 4

**Front suspension:**
Type:
Telescopic fork
Spring/shock absorber type:
Coil spring/oil damper
Wheel travel:
135.0 mm (5.31 in)

**Rear suspension:**
Type:
Swingarm (link suspension)
Spring/shock absorber type:
Coil spring/gas-oil damper
Wheel travel:
125.0 mm (4.92 in)

**Electrical system:**
Ignition system:
Transistorized coil ignition (digital)
Charging system:
AC magneto

**Battery:**
Model:
GT14B-4

Voltage, capacity:
12 V, 12.0 Ah

**Headlight:**
Bulb type:
Halogen bulb

**Bulb voltage, wattage × quantity:**
Headlight:
12 V, 60 W/55.0 W × 2
Tail/brake light:
12 V, 5.0 W/21.0 W × 2
Front turn signal light:
12 V, 21.0 W × 2
Rear turn signal light:
12 V, 21.0 W × 2
Auxiliary light:
12 V, 5.0 W × 2
License plate light:
12 V, 5.0 W × 1
Meter lighting:
LED
Neutral indicator light:
LED
High beam indicator light:
LED
Oil level warning light:
LED
Turn signal indicator light:
LED
Engine trouble warning light:
LED
ABS warning light:
LED
Immobilizer system indicator light:
LED

**Fuses:**
Main fuse:
50.0 A
Headlight fuse:
25.0 A
Signaling system fuse:
15.0 A
Ignition fuse:
10.0 A
Radiator fan fuse:
15.0 A × 2
Hazard fuse:
10.0 A
Fuel injection system fuse:
15.0 A
ABS control unit fuse:
10.0 A
ABS motor fuse:
30.0 A
Auxiliary DC jack fuse:
3.0 A
Backup fuse:
10.0 A

EAU26351

## Identification numbers

Record the key identification number, vehicle identification number and model label information in the spaces provided below for assistance when ordering spare parts from a Yamaha dealer or for reference in case the vehicle is stolen.

KEY IDENTIFICATION NUMBER:

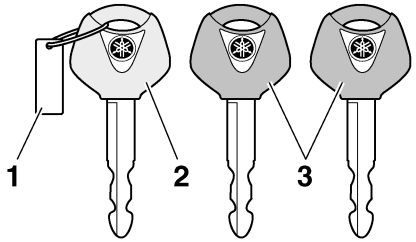
VEHICLE IDENTIFICATION NUMBER:

MODEL LABEL INFORMATION:



EAU26381

### Key identification number

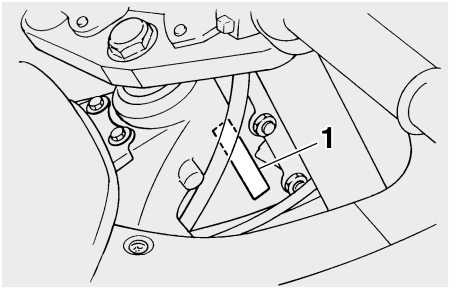



1. Key identification number
2. Code re-registering key (red bow)
3. Standard keys (black bow)

The key identification number is stamped into the key tag. Record this number in the space provided and use it for reference when ordering a new key.

EAU26400

### Vehicle identification number




1. Vehicle identification number

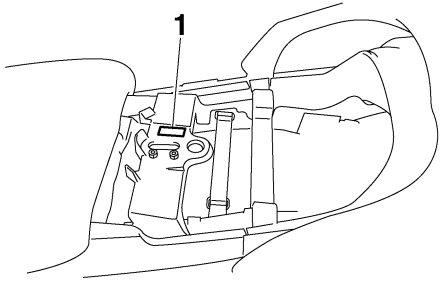
The vehicle identification number is stamped into the steering head pipe. Record this number in the space provided.

**NOTE:**

The vehicle identification number is used to identify your motorcycle and may be used to register your motorcycle with the licensing authority in your area.

EAU26460

## Model label




1. Model label

The model label is affixed to the location shown. Record the information on this label in the space provided. This information will be needed when ordering spare parts from a Yamaha dealer.

# INDEX


**A**
ABS ..... 3-16
ABS warning light ..... 3-4
Accessory box ..... 3-23
Air filter element, cleaning ..... 6-13
Anti-theft alarm (optional) ..... 3-13
Auxiliary DC jack ..... 3-32
Auxiliary light bulb ..... 6-31

**B**
Battery ..... 6-26
Brake and clutch fluid levels, checking ..... 6-20
Brake and clutch fluids, changing ..... 6-21
Brake and clutch levers, checking and lubricating ..... 6-23
Brake and shift pedals, checking and lubricating ..... 6-22
Brake lever ..... 3-16
Brake pedal ..... 3-16

**C**
Cables, checking and lubricating ..... 6-22
Care ..... 7-1
Catalytic converter ..... 3-19
Centerstand and sidestand, checking and lubricating ..... 6-24
Clutch lever ..... 3-15, 6-19
Coolant ..... 6-12
Cowlings, opening and closing ..... 3-24

**D**
Dimmer switch ..... 3-13

**E**
Engine break-in ..... 5-3
Engine idling speed, checking ..... 6-15
Engine oil and oil filter cartridge ..... 6-8
Engine stop switch ..... 3-14
Engine trouble warning light ..... 3-4

**F**
Final gear oil ..... 6-10
Front and rear brake pads, checking ..... 6-19
Front fork, adjusting ..... 3-25
Front fork, checking ..... 6-25
Front turn signal light ..... 6-29
Fuel ..... 3-18
Fuel consumption, tips for reducing ..... 5-3
Fuel tank breather/overflow hose ..... 3-19
Fuel tank cap ..... 3-17
Fuses, replacing ..... 6-28

**G**
Grip warmer adjusting knob ..... 3-28

**H**
Handlebar position, adjusting ..... 3-24
Handlebar switches ..... 3-13
Hazard switch ..... 3-14
Headlight beams, adjusting ..... 3-23
Headlight bulb ..... 6-29
High beam indicator light ..... 3-4
Horn switch ..... 3-14

**I**
Identification numbers ..... 9-1
Ignition circuit cut-off system ..... 3-30
Immobilizer system ..... 3-1
Immobilizer system indicator light ..... 3-4
Indicator and warning lights ..... 3-3

**K**
Key identification number ..... 9-1

**L**
License plate light bulb, replacing ..... 6-30

**M**
Main switch/steering lock ..... 3-2
Model label ..... 9-2
Multi-function display ..... 3-6

**N**
Neutral indicator light ..... 3-4

**O**
Oil level warning light ..... 3-4

**P**
Panels, removing and installing ..... 6-5
Parking ..... 5-4
Part locations ..... 2-1
Pass switch ..... 3-13
Periodic maintenance and lubrication chart ..... 6-2
Pre-operation check list ..... 4-2

**R**
Rear brake light switch, adjusting ..... 6-19
Rear suspension, lubricating ..... 6-24
Rear view mirrors ..... 3-25

**S**
Safety information ..... 1-1
Seat ..... 3-19
Seat height, adjusting ..... 3-20
Shifting ..... 5-2
Shift pedal ..... 3-15
Shock absorber assembly, adjusting ..... 3-27
Sidestand ..... 3-29
Spark plugs, checking ..... 6-7
Specifications ..... 8-1
Speedometer ..... 3-5
Starting the engine ..... 5-1
Start switch ..... 3-14
Steering, checking ..... 6-25

Storage ..... 7-3
Storage compartment ..... 3-22
Swingarm pivots, lubricating ..... 6-24
**T**
Tachometer ..... 3-5
Throttle cable free play, checking ..... 6-15
Throttle grip and cable, checking and lubricating ..... 6-22
Tires ..... 6-16
Tool kit ..... 6-1
Troubleshooting ..... 6-31
Troubleshooting charts ..... 6-32
Turn signal indicator lights ..... 3-3
Turn signal light or tail/brake light bulb, replacing ..... 6-30
Turn signal switch ..... 3-13
**V**
Valve clearance ..... 6-15
Vehicle identification number ..... 9-1
**W**
Wheel bearings, checking ..... 6-26
Wheels ..... 6-18
Windshield position adjusting switch .... 3-14



YAMAHA MOTOR CO., LTD.

PRINTED ON RECYCLED PAPER

PRINTED IN JAPAN
2006.06-0.3×1 CR
(E)